IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

SIMPLEAIR, INC.	*	Civil Docket No.
	*	2:11-CV-416
VS.	*	Marshall, Texas
	*	
	*	January 14, 2014
	*	
MICROSOFT CORPROATION, ET AL	*	8:30 A.M.

TRANSCRIPT OF JURY TRIAL
BEFORE THE HONORABLE JUDGE RODNEY GILSTRAP
UNITED STATES DISTRICT JUDGE

APPEARANCES:

FOR THE PLAINTIFFS:
MR. GREGORY DOVEL
MR. JEFFREY EICHMANN
Dovel & Luner
201 Santa Monica Blvd.
Suite 600
Santa Monica, CA 90401

MR. CALVIN CAPSHAW
Capshaw DeRieux
114 East Commerce Avenue
Gladewater, TX 75647

FOR THE DEFENDANTS:
MR. MITCHELL STOCKWELL
MR. RUSSELL KORN
Kilpatrick Townsend & Stockton
1100 Peachtree Street, Suite 2800
Atlanta, GA 30309

APPEARANCES CONTINUED ON NEXT PAGE:

COURT REPORTERS:
MS. SHELLY HOLMES, CSR
MS. SUSAN SIMMONS, CSR
Official Court Reporters
100 East Houston, Suite 125
Marshall, TX 75670
903/935-3868

(Proceedings recorded by mechanical stenography, transcript produced on CAT system.)

APPEARANCES CONTINUED:

FOR THE DEFENDANTS: MS. DANIELLE WILLIAMS
Kilpatrick Townsend & Stockton
1001 West Fourth Street
Winston-Salem, NC 27101

MS. JENNIFER PARKER AINSWORTH
Wilson Robertson & Cornelius
909 ESE Loop 323, Suite 400
Tyler, TX 75701

****

P R O C E E D I N G S

(Jury out.)

COURT SECURITY OFFICER: All rise.

THE COURT: Be seated, please.

All right. Is the Plaintiff prepared to read into the record those exhibits from the list of preadmitted exhibits published and used before the jury yesterday? If so, go to the podium and read them into the record.

MR. EICHMANN: One moment, Your Honor. For the Court's information, we have -- we have Mr. Simon Franzini also from our law firm sitting at counsel table today.

THE COURT: All right.

MR. EICHMANN: Your Honor, yesterday we

used Exhibits 1, 112, 115, 116, 117, 118, 120, 121, 146, and 263.

THE COURT: All right. Are there objections from the Defendant as to that rendition from the Plaintiff?

MS. AINSWORTH: No, Your Honor.

THE COURT: Okay. Since the Defendant hasn't asked the first question yet, I assume the Defendant has no exhibits to read into the record.

MS. AINSWORTH: Not at this time, Your Honor.

THE COURT: All right. Thank you.

Is there anything else we need to take up before we bring the jury in?

MR. EICHMANN: The depo clips of the Google deponents will be played after their cross of Dr. Knox. Depending on how -- we probably have about another hour with Dr. Knox on direct, 45 minutes to an hour. I don't know how long their cross is. I don't know what the Court's preference is, whether to take up those clips --

THE COURT: Well, we'll see where they are. We're working through the objections now. We didn't get them until this morning. I assume you remember my rule is that deposition clip objections are

to be heard or presented the day before they're to be used so that the Court can review them on a rolling basis, but we'll do the best we can. We'll see where we are after the cross on Dr. Knox.

MR. EICHMANN: Yes, sir.

THE COURT: Anything else?

MR. EICHMANN: Your Honor, we'd like to reurge our request to have Mr. von Kaenel be able to attend. I know the Court already made a ruling about invoking the Rule. We do not intend to call Mr. von Kaenel in our case-in-chief. He will likely not be called in our rebuttal case.

We would point out that essentially Google has several corporate representatives in the room. They have one of their witnesses sitting at the counsel table, but really their corporate representative, the person responsible for this case, are the various in-house counsel who are all here and able to attend. Meanwhile, one of our two most important decision-makers, Mr. von Kaenel, is excluded from the entirety of the trial about his patent at this point.

THE COURT: Well, obviously if he's subject to the Rule, he's going to be a witness in this case. Are you telling me that's not -- that's not

accurate?

MR. EICHMANN: Your Honor --

THE COURT: If he's not a witness, he's not subject to the Rule.

MR. EICHMANN: He's not a witness from our standpoint. They say they may call him, and we are asking for an exception here. We've asked them to agree to an exception given the circumstances.

I understand the Rule, but on behalf of my client, I have to urge an exception.

THE COURT: Are the Defendants planning to call him as a witness?

MR. STOCKWELL: Your Honor, it's possible, but I won't know until after I cross Mr. Payne. I understand he's the last witness. I obviously wouldn't have a problem with letting him see the rest of the case after that. We had planned to cross him because they had identified him as a direct witness.

THE COURT: Well, you know, the Rule was invoked by the Plaintiff on the basis that it would apply to all witnesses, other than party representatives and experts. If he -- if he's a potential witness, until the issue of whether or not he's going to be testify -- testifying is resolved, then he's subject to

the Rule.

MR. EICHMANN: Well, Your Honor, we did, when we invoked it, seek to have him stay as one of the corporate representatives. There's also a possibility that after Mr. Payne is called, we could have Mr. Payne be the one who is then excluded so that he doesn't -- Mr. von Kaenel doesn't see Mr. Payne's testimony, and he is the one who's able to then sit at the table.

Frankly, this is probably something that needs to be resolved between counsel.

THE COURT: You all need to talk about that some more. We'll take it up later after you meet and can confer further.

MR. EICHMANN: Thank you.

THE COURT: Also by way of housekeeping, if co-counsel has something to share with counsel at the podium, I don't like the jury seeing the back of the lawyers. So if you're at the Plaintiff's table, go around. Don't walk in front of the jury to give a message to your co-counsel. And if you're Defendants, don't come around the front, come around from behind.

All right. Anything else from either side before we bring in the jury?

MR. EICHMANN: No, Your Honor.

MS. AINSWORTH: No, Your Honor.

MR. STOCKWELL: No, Your Honor.

THE COURT: All right. Dr. Knox, you want to return to the witness stand, please.

THE WITNESS: Yes, Your Honor.

THE COURT: And you may return to the podium, Mr. Eichmann, when you're ready.

All right. Mr. Floyd, let's bring in the jury, please.

(Jury in.)

THE COURT: Welcome back, Members of the Jury. Please be seated.

We'll continue with the direct examination of Dr. James Knox by the Plaintiff.

You may proceed, Counsel.

MR. EICHMANN: Thank you, Your Honor.

JAMES M. KNOX, PLAINTIFF'S WITNESS, PREVIOUSLY SWORN

DIRECT EXAMINATION (CONTINUED)

BY MR. EICHMANN:

Q. Good morning, Dr. Knox.

A. Good morning.

Q. Yesterday when we finished off, we had your summary of opinions with respect to Claim 1; is that right?

A. That's correct.

Q. Now, just to recap, was it your opinion, sir,

that when Google uses the GCM, the cloud connection -- excuse me -- was it your opinion, sir, that when Google uses the Google Cloud Messaging service and the C2DM service to send app notifications from third-party applications to the Android phones that all of the steps and the preamble of Claim 1 are infringed?

A. That's correct. I identified all of the steps and the preamble.

Q. There was one thing that I skipped over unintentionally yesterday. We talked about the GCM frontend.

And is there something else, another version of that, that's called the cloud connection server?

A. There's a new system. I don't know if it's currently fully online at Google or not, but it's been developed by Google. It's kind of an upgrade -- further upgrade to GCM.

Q. Well, this -- it's not for the whole GCM, is it?

A. No, just for this frontend.

Q. And what's the difference between the cloud connection server frontend, the one that we talked about yesterday, for purposes of what's relevant here?

A. For what's relevant here, there really is no significant difference. It allows for some additional

protocols, some different ways of checking credentials, nothing that changes what we're talking about.

Q. Based on your review of the evidence, including the testimony from Google, did you also conclude that when the messages come in through that version of the frontend, the cloud connection server, that infringement for Claim 1 is also found?

A. That would be true.

Q. Now, we focused mostly in walking through Claim 1 on the third-party applications, like Facebook and CNN, and how they make use of the service. I'd like to just briefly go back to the first-party applications. And can you remind us what that term first-party application means?

A. The first-party app just means that the server is one that actually is owned and operated by Google; for instance, Google Mail as opposed to CNN or ESPN.

Q. And you said Google Mail do you mean Gmail?

A. Yes. Gmail is short for Google Mail.

Q. This diagram we showed in the overview of this system -- and it's very similar to the other one for third-party applications -- can you remind us what this shows?

A. I -- well, the first thing obviously that's changed is we've substituted with first party for third

party. Now, the first party, as I mentioned, just goes through the frontend like always. But because Google already knows these are good guys -- they're Google things talking to Google things -- they allow these first-party apps, if they choose to go to transmit this information directly to the backend.

Q. On here, we just have two examples. One is Google Calendar and one is Gmail. Are there other examples of Google applications that make use of the GCM and C2DM?

A. Yes. The Google's witness identified more than that.

Q. Did that include Google Plus?

A. I believe that's correct, yes.

Q. Is that their version basically of Facebook?

A. To be honest, I don't recall.

Q. Okay. What about Google Hangouts; do you recall that application?

A. I recall the name. It's not one I'm familiar with, but it was listed. Yes.

Q. As one of the applications that use the service?

A. That's correct.

Q. Now, remind us, please, what is the difference between the process that happens when it's Google's own

applications that are sending the messages through the system as opposed to the third-party applications?

A. Because we go directly to the backend. If you'll recall from yesterday, the messages arrived at the frontend. The frontend checks credentials, parses the thing apart, and then made an RPC as the procedure call to the GCM backend.

If it's a first party like Gmail, that's going to go directly to the backend. They send that data already as an RPC call. So essentially, at the high level we're talking about here, the backend doesn't really care where he got it from, whether it was from the frontend or from the first-party server. After that, it's pretty much all the same.

Q. And yesterday, we talked about one of Google's arguments about how they don't do the first step of the patent. It's the third-party applications.

Does that argument apply to when Google uses the service for its own applications?

A. I don't see how it could. I mean, these are Google servers.

Q. Now, very briefly, we'll walk through and I'd like you to -- each of the elements and I'll ask you whether the element is also infringed specifically by this scenario when the Google application occurs.

For element (a), the element where -- where you have to transmit data from an information source to a central broadcast server, is that element, in your opinion, infringed when Google uses the GCM and the C2DM for its own services?

A. Yes. We've still got the Google being the information source. And you'll recall this MCS Buzz and backend are by themselves a central broadcast server. So the answer would be yes.

Q. Element (b) of the patent was the one about parsing the data with parsers. In your opinion, does the GCM and C2DM service perform element (b), that parsing step, when the data comes in from the Google applications?

A. That would also be correct. The one thing that's on your slide that wouldn't be is the frontend wouldn't be involved in this case, but, of course, the central broadcast server would still be those remaining three, which would still do parsing.

Q. We went through the parsing routines at the GCM backend, the Buzz, and the MCS yesterday.

Are those same parsing routines used to parse data from the Google information sources, the first-party apps?

A. That's correct.

Q. Element (c) of the patent requires sending the data to an information gateway. For the third-party scenario, third-party apps, you identify the Buzz as the information gateway.

How about when the application is a Google application?

A. There's no change. Basically, once we've made it to the backend, it's all treated the same.

Q. Your opinion is still that the Buzz acts an information gateway?

A. That's correct.

Q. Element (d) of the patent requires that the data blocks are sent to a transmission gateway. And yesterday, you identified the transmission gateway as the MCS for the third-party apps.

Is that the same, in your opinion, for the first-party apps?

A. Again, there's no change. So, yes, that would still be the -- the transmission gateway.

Q. Element (e) of Claim 1 requires transmitting preprocessed data to receivers communicating with the remote computing devices, which yesterday you identified as the CPUs within the Android phones; is that right?

A. That's correct.

Q. And in the case of first-party applications,

when the system is used, is that element infringed, in your opinion?

A. Again, there's no change. So, yes, it would still be infringed.

Q. The last element, element (f), says that the remote computing device, which, again, you identified as the CPU within the phone, is instantaneously notified whether that remote computing device is online or offline from a data channel associated with each device.

Did you find that that element is also infringed when the GCM and C2DM are used for the first-party applications, the Google apps?

A. That's correct. Again, it proceeds exactly as before.

Q. And for both first-party and third-party applications, is it your opinion that the Google service, the C2DM and GCM, also perform all these steps with respect to not just the Android smartphones but these tablets?

A. That's correct. The Android system works the same in both.

Q. Does the Android operating system -- is that the same operating system, the 2.2 and above, that's on the smartphones that they -- that they put on the tablets as well?

A. The kernel system, yes, is the same.

Q. What do you mean kernel system?

A. Oh, the -- the heart of it. Their customizations that have to be made for a tablet as opposed to a phone. But, again, for the level we're talking about, it's all the same. The part that Google provides basically is the same.

Q. Now, let's move on to this question: How many times Google has infringed.

As we talked about, Claim 1 is a method patent, so we have to show that they actually use the method to show infringement.

MR. STOCKWELL: Objection. I believe there's a little too much colloquy from Counsel, Your Honor.

THE COURT: Well, state your question, Counsel. Let's move on.

Q. (By Mr. Eichmann) In your assessment of the evidence in the case, did you consider how many times Google has actually performed the method, all the steps of Claim 1?

A. Well, these steps would be performed essentially for every message that goes through there. The number we have from Google is 11 billion times a day. We'd have to back some of those out, because we

don't know about every single detail of every single one, but we know just the top ones there are almost 10 billion.

Q. And this is a pull-up of the document we showed yesterday with their top 10 applications. Hopefully, you can read a little better this time.

A. Yes.

Q. Tell us what this shows. You kind of started to, and I didn't have the slide up quick enough.

A. This is a list of the frontend. This is from Google of -- by their logging or their recordkeeping, who is the biggest users of this GCM or C2DM system. Facebook, not surprisingly, seems to be the big winner. But this list goes down and shows on a per-day basis, is my understanding, how many times a message is sent from that Facebook server or what's app server through the GCM or the C2DM system to an Android phone or tablet.

Q. In your opinion, when the application provider and the Google servers that receive the requests are located in the U.S. and the message is sent to an Android phone or tablet in the U.S. through the GCM and C2DM, does each time that happens, in your opinion, infringe Claim 1.

A. Almost all of them, yes.

Q. What do you mean almost all of them?

A. There are a few cases that I would expect to be relatively rare where I have not analyzed that particular path, but that should not be the -- the standard -- well, is not the standard case.

Q. This document here shows, as you pointed out, 11 billion requests -- send requests made for the top 10 applications.

Over -- what's this -- for what period of time is this for?

A. This is for one day.

Q. And which day was that?

A. Oh, that I couldn't tell you.

Q. You actually --

A. I think we've got a date on here. July 25th of 2013, so it's relatively recent.

Q. And this is on the board, Exhibit 272 and 275. Can you tell us what's shown here?

A. This is actually, again, from Google documents. In this case, this is something that they provide to encourage developers to use the GCM or C2DM system, and they're actually advertising it as a reliable end-to-end solution for Cloud Messaging and -- and they gave their -- their test results here. 11 billion messages a day; 450 million active users; 30,000 active applications; and a 25-percent growth each

month.

Q. And in the bottom part of that document?

A. These are some of the features of it. 250 million-plus Android devices that optimizes the battery life of telephones. It's easy to use because they provide these what's called APIs. That's an application interface there. And used by dozens of Google properties, thousands of external apps.

Q. Now, those were worldwide numbers, if you recall.

Do you have an opinion on how many times Google infringes Claim 1 of the '914 patent in the United States, using all the U.S.-based equipment?

A. I have no direct metrics. Having looked at the list of -- of top 10 and things like that, marking some of them pretty much out and keeping others, I made a very, very conservative estimate. It's got to be hundreds of millions, if not billions of times per day.

Q. Let's turn briefly to the remaining claims that are alleged to be infringed in this case. And that's Claims 2, 3, 7, and 22. These are dependent claims.

Can you explain to the jury what a dependent claim is generally?

A. Yeah. You can think of a dependent claim

as -- as an add-on. It's dependent on some other claims that -- what we call an independent claim. We saw Claim 1 earlier. That's an independent claim. You have to do all that.

A dependent claim means you still have to do whatever independent claim it refers to, but in addition, it adds an additional what we call a limitation. So it might -- the independent might say it has to transmit, and the dependent claim might be a particular way. You still infringe the independent one regardless, but in order to meet this dependent claim, you have to do this additional restriction for it. That's my layman's version of it.

Q. Up here is Claim 2 of the '914 patent, which in the patent comes right after Claim 1.

Can you tell us what this patent -- excuse me -- what this claim of the patent requires?

A. Well, first thing it requires, it says the method claimed in Claim 1. So we still have to in order to infringe Claim 2. We still got to do Claim 1 like we went over yesterday.

But in addition to that, we have this requirement wherein said step of transmitting to data blocks to said information gateway for building data blocks, assigning addresses to said data blocks. That's

pretty much out of what we saw yesterday.

Further comprises the step of building data blocks and assigning addresses to said data blocks based on an -- I'm sorry -- based on information in a subscriber database. That's our new requirement here.

Q. Subscriber database, is that a term that the Court gave a special definition to?

A. No. Database is a standard term, and subscriber just means like a newspaper or anything else. The Court did not give a definition for it.

Q. And what is the ordinary meaning, in your opinion, of the term database?

A. Well, a database is kind of like a filing cabinet, a collection of data where you can put things in and file them away and then retrieve them.

Q. In electronic form?

A. In this case, since it's a computer, yes.

Q. Did you find that Claim 2 and its requirement of a subscriber database that you used to build the data blocks and assign addresses was met by the GCM and C2DM services?

A. That's correct. I did.

Q. And what led you to that conclusion?

A. We mentioned yesterday that -- that Buzz has to figure out which MCS end point to send this message

to. And he looks that up in a database. It's a big list of all the phones that are currently connected through MCS, and he looks that up on -- he has an internal copy, but he can also look it up on this thing called Kansas. Kansas is just a big storage -- big filing cabinet.

Now, that would make it a database because he looks up the phones's Android ID, and he gets out a piece of information about which MCS's end point. What makes it a subscription database is that there are flags in there saying which applications actually are currently requesting to receive these alerts. This registration ID basically identifies both -- essentially think of it as a combination of the application and the phone.

So if, for example, a -- CNN goes to send a message to -- to this phone, but the guy has requested not to receive notifications for CNN, then it won't be in that database and the -- the message will not be sent on. So it's a database of those people who have subscribed to those types of messages.

Q. So in summary, in your opinion, is Dependent Claim 2 of the '914 patent infringed by Google when it uses the GCM and C2DM to process and send messages for both first and third-party applications?

A. That's correct. In both cases, it looks up that MCS end point address by looking it up in a subscription database.

Q. And does it assign that address to the data blocks?

A. Yes, so it can send it on to the MCS end point.

Q. We've got two additional claims on the board. This is Dependent Claim 3 and Dependent Claim 7, and they relate to each other. Can you walk us through what these claims describe?

A. Well, Dependent Claim 3 is dependent on Claim 1. And it has -- I'll read it quickly. The method claimed in Claim 1, wherein said step of transmitting preprocessed data to the remote receivers communicating with said devices -- basically our transmission gateway -- further comprises the step of wireless transmitting said preprocessed data to the remote receivers. In other words, instead of an Ethernet cable plugged into the back of the device, that somewhere in between the two there's a wireless or radio communication.

Q. And does the patent describe how that transmission can be made using a wireless connection?

A. It gives several descriptions, yes.

Q. Is this -- this is an example shown from

Figure 1?

A. That's the picture, yes, that's out of Figure 1 from the patent. And the radio tower there is just kind of a -- what we call a clipart of a -- of a wireless transmitter.

Q. And did you find that the GCM and C2DM service, when Google uses those services to send messages for both first-party and third-party applications, that they do so wirelessly as Claim 3 requires?

A. Yes, that would be true for both WiFi and for what we refer to as cellular -- cell phone usage.

Q. Did you find that there was infringement of Claim 7 and its additional requirements?

A. Yes, Claim 7 is dependent on Claim 3, which, of course, is dependent on Claim 1. So we've got our Claim 1. We've added that it has to be wireless this time. And then we add a further limitation that the wireless method of transmitting said preprocessed data utilizing an FM subcarrier, a digital carrier, an analog carrier, a cellular carrier, a GCM carrier, or a PCS carrier. Those are different types of wireless transmissions. Specifically in this case, these are types that -- that would typically relate to a cell phone. GSM is -- for example, AT&T uses the GSM system.

The analog carrier is out of service in the United States. PCS, I believe, may still be used by some of them. But these are just typical what we think of as the cell carriers.

Q. Well, there's several different options here. Which of these types of carriers, in your opinion, does Google utilize to send messages for the GCM and C2DM?

A. The cellular carrier and the GSM are the most common ones that are used in the United States.

Q. And under what circumstances does that happen?

A. Pretty much any time your phone is not logged in or connected to a WiFi hot spot. If I just had an AT&T cell phone in my pocket, Android, that's what it would use.

Q. The last dependent claim we're going to discuss is Claim 22. Can you explain what this claim requires?

A. Yes. Again, this is a dependent claim back on the Claim 1 -- the method claimed in Claim 1, wherein said step of instantaneously notifying said devices of receipt of said preprocessed data, whether said devices are online or offline from the data channel associated with each device -- and here's the new limitation -- further comprises the step of providing at least one alert which when activated allows display of data.

Q. Now, can you explain what this -- how this differs from the last element of Claim 1 which talks about instantaneously notifying the remote computing device?

A. Yes. All we -- all we said in Claim 1 in that last step was that when that message comes down and is received by the phone, that the CPU is notified that that message has been received. We didn't say anything about what happened to it, what it did with it. What Dependent Claim 22 requires is an additional step here, if you will, that after this CPU has been notified, that it puts up some kind of alert on the screen or on the device that can be activated, that -- in other words, that you can do something with, that will allow the display of data. And I think we've got some examples of that.

Q. This is shown here -- there's an example. One is from the Gtalk application; is that right?

A. That's correct, yes.

Q. And this is -- can you explain what's shown -- the pull-up here in the middle?

A. Well, the -- the thing --

Q. This here?

A. -- yeah, the big black rectangle in the middle is the actual message that the user wanted to see. In

this case: Mickael, what's up?

Q. And can you click on that to get more data?

A. Yes.

Q. In your opinion, does Google perform the method of Dependent Claim 22, providing at least one alert which, when activated, allows the display of data?

A. That would be correct.

Q. And what portion of the phone does that?

A. It involves the application, obviously, because that's what has our data channel, but there is a particular part of -- of the operating -- I'm sorry, of Android that is provided by Google which knows how to put up these alerts, how to recognize that somebody has swiped them or touched them, depending on the device, and then sends that response to the app so that it knows that alert has been activated.

Q. Move on to our last topic, which is non-infringing alternatives. First, can you explain this concept of what a non-infringing alternative is?

A. This is something that's done in -- in these types of cases is we look at -- or I look at and Google also provides some ways that they suggest they could have worked around the infringement, that they could have redesigned the system so that it would not infringe. It's called non-infringing alternatives.

Q. And did you consider the non-infringing alternatives that were available to Google instead of using the infringing methods we just went through?

A. I certainly considered a number of them. The first one that -- that came to mind was polling. That's the way this was done before -- well, before SimpleAir or before this type of thing. Systems used to always go out and poll periodically to see if there was e-mail or news or whatever.

Q. So when the -- all right. When the polling technique to get new data is used, explain exactly what happens.

A. I think -- I don't know if I mentioned it yesterday or not, but polling, it's like you -- you've invited friends over, you're not sure when they -- when they might arrive. You go -- so every few minutes you stop what you're doing, you go to the front door, you open the front door, anybody there? No. Shut the door and go back to what you were doing. You have polled. You have asked is anybody out there. That's polling. Real simple. It's been done, again, for decades. And you check and see if there are any, in this case, new emails or new breaking news stories, whatever, tornado alerts.

Q. In this diagram, what's depicted with respect

to polling?

A. You have to ask the question. You have to send a request to the -- in this case, to the Gmail server. Do I have any new mail? And the Gmail server sends back either a yes or no, another message back to you.

Q. So on the top, what do we have and what do we have on the bottom of the screen?

A. Just an example, the top one, you asked is there any mail, new unread mail; it came back no.

The bottom one, the same question, but at this time, it came back and it said, yes, you have new mail, in response to the question.

Q. And can you explain what's shown on this next slide?

A. Yeah. The problem is -- depending on I guess how popular you are -- you may have to ask hundreds or thousands of times and get the answer no, every time, and just turn around and keep asking again and again and again, wasting all this effort before you finally get an answer that says yes.

Q. And what's the problem with doing -- doing it that way?

A. Well, it's just like running to the door to see if anybody's standing on your front porch. It takes

energy. In the case of you doing it, it makes you tired. In the case of the cell phone, it drains that battery. Every time you ask the question and get the answer, you drain the battery a little. If you have to do it a whole lot of times, you drain the battery that much more.

Q. Now, what about if you have not just the Gmail application that you're checking e-mails for but multiple applications?

A. Well, everything I just said is still correct. Every time you go do it, it drains the battery. If you got not just Gmail but CNN, ESPN, Facebook, dozens of other apps and you're having to do this with each application server, then you're just draining the battery that much faster.

If you were looking for 10 possible friends and they might come to 10 different doors, you'd have to run around opening 10 different doors every time you just wanted to find out if somebody was there.

Q. If you wanted to reduce the battery drain caused by this polling technique asking for new data, what could you do?

A. Well, the cost is per asking. Every time you ask and get a reply, whether it's a yes or no reply, it still has that cost. If you ask every minute, you're

doing it 60 times an hour. That's a lot of drain. If you want to reduce the drain, you could ask less often, maybe once an hour, for example. And, you know, of course, that leaves people standing out on your porch for 59 minutes.

Q. Well, on this slide, we were showing polling from the phone to the server once an hour; is that right?

A. That's correct.

Q. And what's wrong with that? Why is that not good enough?

A. Well, you can do it, but you're only going to get information back when you ask the question. You're only going to find people at your front porch when you open the door. If somebody shows up right after you just looked, then a whole hour is going to go by before you know again.

In this case, if you got email or if there was a breaking news story or sports score or something, you're not going to find out about it until almost a full hour later when you ask the question again.

Q. What's -- what's so bad about that?

A. Well, depends on what the question is. For some things, it might not be so bad, but for a lot of other things, it could be really unacceptable. You

could be getting emails that are critically important that you get them in a timely fashion.

This is Marshall, Texas. I, like I say, grew up not far from here. We're at the bottom of Tornado Alley. The Weather Channel might go years with you asking every -- every hour, is there a -- you know, for weather alerts. And then it issues a tornado warning or a tornado alert and you don't get it for 58 minutes. That's probably about 48 minutes after it crushed your house. That's just not acceptable.

Q. What was the next non-infringing alternative that you considered?

A. Something called persistent connection, and a persistent connection just means we open this connection and we keep it open in this case between the phone and the app provider. That's -- gets around part of the problem of the -- of the polling.

Q. When you're talking about a persistent connection, are you talking about these connections from the phone to the application servers?

A. Yes. We're trying to get around the infringement of the GCM or C2DM system. So we're bypassing all of that and going directly between the phone, and in this case, the third-party server. So it would have a persistent connection between those two.

Q. How is this different from what we ended with yesterday about the online or offline? What's required by the -- the patent?

A. This would -- would actually be a connection between the two. So it would be, in effect, online to the application server.

Q. All the time?

A. All the time.

Q. And would it use that whole system, the GCM system?

A. Not what you've got shown up there. It would bypass all the Google stuff, except for the Android operating system. It would bypass the infringing system.

Q. In your opinion, what problem is there with maintaining this connection?

A. Well --

Q. I'm sorry. The direct connection to the app providers?

A. We need to -- we need to say two things about that. First, these connections are kind of like an elderly aunt who's not too good with remembering things. So you remind her of something, but you have to keep reminding her; otherwise she forgets.

We call it a persistent connection, but in

order to make it persist, we have to keep reminding the -- the communications channel that we're still there about every 15 to 30 minutes. It's called a Keep-Alive. That's the same thing we have to do for keeping a persistent connection between this phone and the -- the GCM system, except that -- and -- and there's a drain. Just like everything else, it drains the -- the battery, but when we did it with GCM, we only had that one drain. When we do it with a whole bunch of app providers, we've got that drain again times every single app provider we want a connection to.

Q. Let me back you up a moment. You referred to a Keep-Alive. What is a Keep-Alive signal and how does it relate to a persistent connection?

A. The Keep-Alive is just a really short little packet of information, and it's just a reminder, hey, I'm still here. Some of you may have seen the term inactivity disconnect on your computers. It's that sort of thing. If that connection is idle for too long, various positions along the way will drop it, will decide that it's no longer valid.

But it is a connection. It does require you to send information, in this case to Gmail, and it requires Gmail to acknowledge back that it got that message. So there's a battery drain every time that

happens.

Q. And what if you have multiple applications on the phone; do you still have Keep-Alive signals?

A. You have to have a Keep-Alive for every one of those connections, because they're separate connections. Even though they're all simultaneously there, each one has to have its own Keep-Alive. So if we do that, then we've got -- we've got that battery drain times that number of -- that number of channels.

Q. Of -- of connections you mean?

A. That's right, however many are up there.

Q. Were there other alternatives, non-infringing alternatives, that you considered in your work on this case?

A. There were.

Q. And how did you identify those?

A. These were ones that Google themselves suggested. They said, you know, we could do this or we could do this and so on. And they sent a whole long list of them in what's called an interrogatory response.

Q. What's that exactly?

A. Oh, it's an answer to a question that's legally asked of them, and they legally respond.

Q. And now, Mr. Nerieri, Google's corporate witness, sat for a deposition earlier in this case. You

read his testimony?

A. I did.

Q. When he was asked about the alternatives that Google identified in their interrogatory response, what did he say about those?

A. He said they'd never considered any of them.

Q. And did you find that to be relevant?

A. Yes, to some degree. It meant that they had not found any of those to be useful when they were designing the system. They had not looked at those as viable alternatives.

Q. One of the alternatives they identified -- and it was touched on by Google's counsel in the opening statement -- was this idea of putting the whole system outside of the United States so that they could avoid infringing our United States patent.

Did you look into that issue?

A. I did.

Q. And first -- we talked a little bit about this in infringement -- but does Google have servers for the GCM and C2DM within the United States?

A. They do.

Q. And when you were providing your opinion on how many times Google infringes Claim 1 and you said hundreds of millions of times, were you talking about

the use of those servers, the ones in the U.S.?

A. Yes. I was eliminating -- for instance, one of those users is primarily a Russian company, and I was trying to eliminate all that and still be very conservative as to what would be in the United States.

Q. Now, what do you have to say about this alternative, and -- I'm going to ask a new question.

First, let me ask you this: In his deposition testimony, did Mr. Nerieri, Google's witness, give any indication that Google actually locates its servers here or there based on whether it might infringe people's patents?

A. No. In his testimony, what he said was they simply looked at where they had capacity.

Q. And what does that mean?

A. It actually means several things. It means where they've got enough of these machines to be able to keep up whatever loads those machines are expected to handle. But it's more than just the machines. It's the facility, the personnel to run them, the power and the data lines. All of that goes into capacity.

Q. Mr. Nerieri was also asked whether Google in the whole company's history has ever purposely designed a service so that they're going to use foreign servers to send messages, for example, to people who are in the

U.S.

Do you recall reviewing that part of his testimony?

A. I do.

Q. And what was his answer to that?

A. He didn't know of any. He said I don't -- I just said it could be. I don't know about it.

Q. Based on the evidence you've seen in this case, including the deposition testimony, in your opinion, is it Google's practice to put servers in the U.S. or outside the U.S. based on whether it's going to infringe people's patents?

A. I've seen no evidence of that.

Q. Now, there's another response that you address in your report to this idea of putting the servers offshore.

Can you explain that one and how it relates to what's shown here?

A. I can explain it in -- in layman's terms. I'm not a patent lawyer. In addition to the '914 patent that we've been discussing here, there's a thing called the '279 patent also owned by SimpleAir, and it's what's called a system patent. It's very similar in what it -- what it does.

But my understanding of the way a system

patent works is that if the ends in this case are in the United States, that even if you moved those GCM servers offshore, this patent would still be infringed.

Q. This is Exhibit 7 and this is a copy of the '279 patent?

A. Part of it, yes.

Q. Which part is shown here on the right?

A. Claim 1.

Q. And what's shown in the highlighting? What's the highlighting supposed to indicate?

A. The highlighting is, again, these -- these Buzz words or these terms that we've got a system. Remember '914 said a method, but it's got a central broadcast server, an information gateway, a transmission gateway, and a data channel associated with each remote computing device. Pretty much reads the way the '914 did, but this is a system patent, not a method patent.

Q. Did you reach the opinion in one of your supplemental reports about whether this system patent would be infringed by Google?

A. Based on what I've been informed is -- is the patent law relevant to this? Yes, it would still infringe.

Q. Even if they moved some of the servers outside the U.S. but use it to use the system to serve U.S.

devices?
A. That's correct.
Q. And when did this patent issue?
A. This is recent, October 29th, 2013.
Q. So we heard a little bit about the re-exam proceeding where the Patent Office was asked by another company, another Defendant, to look at '914 patent again.
Do you recall that from the opening?
A. Yes.
Q. And the patent found that the '914 patent was -- was valid?
A. That's correct.
Q. And then this -- again, this is a separate patent at the Patent Office just recently issued?
A. That's correct. This is one they -- an application they examined -- accepted and issued a patent on.
Q. Which of these non-infringing alternatives did you find would be the best one for Google to use, if they couldn't do the infringing method of the GCM and C2DM?
A. Of these basic types -- and there are a lot of combinations of ingredients here -- but basically, I -- I think their best option would be to go to this

persistent connection but to each individual application server.

Q. Is that actually something that they could actually do on the -- with the Android phones?

Let me ask the question differently. I'll withdraw it.

A. Okay.

Q. Currently, do the Android phones allow applications to maintain a persistent connection to the third-party application servers?

A. Allow it, yes, but I'm not aware of any applications that actually have the software in them to do it. So those applications would have to be modified.

Q. Now, in your opinion, are any of these non-infringing alternatives actually acceptable as compared to the infringing method that Google actually uses?

A. I don't think any of them would be -- would be very good. The persistent connection, what I describe here is -- is the best of a bad lot -- is still going to reduce the battery life substantially.

Q. So basically, you're saying this is the best choice out of a bunch of bad choices?

A. Yes.

Q. Now, let's talk about the benefit of using the

infringing method, the one they currently use, compared to what you found to be the best non-infringing method. And on the left, this depicts the non-infringing method?

A. That's correct.

Q. These are the persistent connections to each of the app providers?

A. That's right.

Q. And then this is just the system that they use to infringe on the right?

A. Yes, that's correct.

Q. Now, generally from a top level, what are the benefits to Google of using the infringing method as opposed to that non-infringing method of -- of persistent connections to the app providers?

A. Well, this list isn't necessarily in an order that I would put it in. I think the biggest one is that battery-life issue. That's the biggest benefit.

It also -- it says here saves network resources. Every time one of these Keep-Alive signals goes out, every time you poll, you're using part of your data plan. So it not only eats into your budget for data, but it eats up the capacity of these cell towers and all. So it slows everything else down.

Q. You're -- you're talking, sir, about this slowing things down, these connections?

A. Doesn't matter. Every one of those connections slows it down. If you're doing it for three of them, you're slowing it down three times as much. You're putting three times the load on it.

The other advantage -- whereas going through the GCM, you're only doing it once. And we should probably say more about that. But -- and the other things, it says up here -- it says give Google -- or gives Google control. And there's a number of things there that that does.

And I probably can't remember all of them at the moment, but one of the things is it isolates the -- the app provider from the user's phone. The app provider can't spam the user, whether he wants to be or not, with just endless floods of these. Google can always shut the thing down if -- if the app provider doesn't obey the terms of service. Google gets to sit there as the middle man. And they get to be the good guys providing this service.

Q. By offering the infringing service, does Google get to keep metrics, sort of data files, on the use of the system?

A. Yes. They -- they log everything from the number of good messages to the number of bad ones. You saw those charts we had earlier that are -- those

actually came from Google. When I went through the code, there's a ton of stuff in there for that.

Q. Would they have access to all that information, things like which apps are sending notifications and how many phones are getting them, if they didn't offer this system and just have this happen, the direct connection?

A. Well, they wouldn't have anything. They'd be completely out of the loop.

Q. Now, let's focus on the one you said is most important, saving of the battery life. Up here at the top, again, we have the infringing system. And as you said, it has one connection. Explain, please, what's shown on this -- this slide. What's on this slide?

A. Well, we said that this connection draws battery power. Just keeping it alive puts a certain small but noticeable drain on the battery. And we said if you had a bunch of these connections, you'd drain the battery that many times faster. If you had a user and he's only got one app and he -- you know, maybe it's his Gmail and that's the only thing he ever sets up that wants alerts, then if he had this one persistent connection direct to Gmail instead of to -- to GCM, it actually wouldn't make any difference, frankly. He's got one connection. It eats up one amount of network

capacity. It eats up one amount of -- of battery.

The trouble is most people have lots of apps and they want to make lots of -- or want to get lots of alerts. With the GCM system that we're talking about there, the infringing system, it's what we call scalable. No matter how many of these apps and how many different types of alerts you may be getting, you've only got one connection. You're only paying for it once in terms of battery.

Q. And this is the non-infringing method where you have multiple --

A. Yes, just straight arithmetic. You'd have to multiply it by however many of those you've got.

Q. So this is the comparison that you made between the infringing method and the non-infringing method?

A. That's correct.

Q. And how did you go about measuring the battery life savings that is achieved by using the infringing method of Claim 1, as compared to their best non-infringing alternative?

A. As I say, in some ways it's just simple arithmetic. What you need to know first and foremost is how much energy is taken out of that battery every time you keep this connection alive, every 15 to -- to 30

minutes. And that was one of the first steps that I did.

Q. How did you go about measuring the battery drain that results from that Keep Alive signal?

A. I did three separate things. One of the first things I did was looked at the phone specification. The -- the people who sell these phones actually market these phones with a little sheet either online or in the back of the box the phone comes in or whatever, and it has a lot of information, including what you see up there is called the standby time. And that gives you an idea of how long the phone will last when you're not getting a movie or something. It's just sitting there waiting to get a phone call or waiting to get an alert or something. So that gives us a measure of hours, and then we can also look and see what size battery, how much capacity is in that battery, multiply or divide one into the other, and you get a measure of the rate at which that battery discharges.

Q. Did you also consider internal documents from Google when you were trying to measure the impact on battery?

A. Yes, they've spent a lot of time and effort on this, according to Mr. Nerieri. They've got their own battery team, as I recall. And they have published

their own data internally on this -- on how much load each one of these Keep Alives will cost on the battery.

Q. And shown here is Exhibit 146 and Exhibit 54. Are these documents that you considered in your analysis?

A. Yes, those are Google documents. And the -- the first one there, the 146 is one of the especially nice ones. In addition, the little excerpt you have there, they have drain curves and they had some really nice fill traces that they had taken.

Q. Did you also perform your own testing as part of this analysis?

A. Yes. I mentioned earlier that I have a little research and development company there in Austin shown in the upper right-hand corner, our building. Little red car up there used to be mine. And we have an electronics lab in the back that I use standard test equipment, oscilloscopes. The power supply in the lower left that --

Q. Actually slow down for a second, sir. Maybe you can tell us first what's the one up on the left?

A. That's an oscilloscope. You always see it in the mad scientist movies.

Q. Okay.

A. And it's used to -- to convert an electrical

signal into something you can visually look at. We all have a couple of traces in a moment, but you actually get to see all the squiggles indicating what's happening electrically to whatever it's connected to.

Q. And what's this piece of equipment on the lower left?

A. That's a power supply. We test the batteries. We condition them. We do all sorts of measurements on them, but then when we go to check the phone, we don't want how freshly charged or discharged the battery is to impact -- impact our measurements so we use a power supply. And both the scope and power supply, I should point out, were specifically chosen because they match a testing standard from, I believe, AGM. It's a -- an organization that publishes how to measure these sort of things on cell phones.

Q. When you did your testing in the lab, did you comply with generally accepted principles for testing these sort of things?

A. That's correct.

Q. And what about this up at the --

A. Well --

Q. -- upper right?

A. -- I'll take those two together. Cell phones use a different amount of power, depending on how -- how

strong the signal is. You're standing near a cell tower, it uses less power than if you're a long ways away. Same way with -- with the other signals. So we wanted, again, to be able to have a consistent, reliable way of measuring this.

The thing in the -- the upper box there with the two antennas sticking out of it is what we call a WAP, a WiFi hot spot. So we had our own dedicated -- there's never any other traffic when we were making these measurements. The only thing it does is handle these Keep Alive signals for us. Also allows me to record that data and everything, and we have a known strength of a signal we can use over and over.

Go back just a second, please. And the thing right beneath it is kind of neat. That's our own cell tower. It's called a microcell. But it's a cellular tower, operates with AT&T, and that means our cell tower was just a couple feet away from the phone. So, again, we had a known, consistent, reliable, and dedicated cell signal so we never had to worry about delays from somebody else, you know, occupying the thing or it being so far away that the cell phone was using more power than it should.

Q. And is this an example of one of the phones that you tested?

A. Yeah, that's a Galaxy S3.
Q. Is that an Android device?
A. Yes, it is.
Q. Did you --
A. That's a boot screen. And you see, in fact, one of the -- a couple of the Google apps there on it.
Q. Did you test other Android phones?
A. Yes, we tested a number of them.
Q. And what's shown on this slide?
A. Remember we talked about that oscilloscope. These are two traces that copied straight off the screen. On the left-hand side is an idle, and that's pretty much just a -- a straight line. You can't really tell it from here, but that line is up above ground just slightly. That is to say the phone is consistently drawing a little bit of power. And that's mostly keeping the receiver alive so it can recognize one of these signals. When the -- when the -- the signal or when the message actually comes down, you get a trace like what you see on the left. This is a Keep Alive. It's got two parts here. The big pickup on the left-hand side of that trace is the transmission from the phone. It's the processor waking up, making up this transmission, sending it out, and saying, hey, we're still here, don't drop my connection -- my persistent

connection to GCM. And then there's a little hiccup on the other end basically where it's acknowledged and the phone shuts down.

Q. So you did all this testing, and how did you gather up all the data and figure out what to do with it?

A. Well, what you haven't seen is the hundreds and hundreds of oscilloscope traces and -- and measurements and everything else, but eventually put it all in a spreadsheet and generated some formulas that allowed us to plug in all the data that we got from the testing for each phone, its battery type, how much capacity, all these other numbers. And from that, we could derive a formula that allowed us to plug in different conditions. For instance, how often the Keep Alive is sent or what's the impact of having multiple Keep Alives versus just one.

Q. Did that allow you to create a -- a worksheet or a formula for the Android phone, something that you could then use to decide how much battery life per application was drained?

A. That's right. Reduced it down to obviously a much simpler thing. You see there that essentially just looks at the impact of these -- these Keep Alives.

Q. Well, let me back up. What is shown on

this -- on the screen at this point? It says Android battery worksheet. What -- what's that?

A. This is a reduced spreadsheet, or just a little thing. The formulas are kind of buried down under here, although I think it's given right at the bottom where you probably can't -- can't read it well. But it allows you to plug in different numbers of -- of Keep Alives, different numbers of applications that want these Keep Alives, and determine from that what drain there is on the -- on the phone's battery.

Q. So this is a Microsoft Excel spreadsheet?

A. That's correct.

Q. And you can actually enter in different numbers to the spreadsheet?

A. That's correct.

Q. And then automatically the formula calculates these numbers?

A. That's right. As I say, all the complicated math is hidden here, but the formula is given down at the bottom.

Q. So right here there's the No. 2 provided. Can you tell us, if you change the number in that field, what -- what's it do? What's the spreadsheet do?

A. That is the number of downloaded applications with notifications. In other words, how many of these

apps are going to want to receive these alerts.

Q. And in the next column here, it says standby time with no applications at all, not even having the GCM or a connection to the app provider. What's -- what's this about, this --

A. Well, that's our -- what we call our baseline. That's -- that's based on no notifications. The phone just sits there idle.

Q. And in the next column, it says standby time with connection to GCM.

A. Right. And that's equivalent, as we said, to one -- keeping one of these connections open. And even that, as we said, draws some battery power. It does reduce the overall battery life. This is consistent with my measurements. It's consistent with Google's measurements.

Q. So this first number down here under percentage decrease, it says 14 percent. What's that the decrease of?

A. That's the percentage decrease that you would have in battery life if you set up one of these notifications and set the phone down and just waited for the battery to run down, as opposed to not having any notifications at all and seeing how long the battery would remain alive on the phone.

Q. So this first one, the 14 percent, does that measure the difference between a phone that has no notifications whatsoever and a phone that's using the infringing Google system?

A. That's right. One notification, one app alert, or being connected to GCM, those are exactly the same in terms of battery usage.

Q. And in the third column here, it says standby time with maintaining connection to each notification app provider. What information did you put in that field?

A. Well, you remember the thing on the far left, we had a 2. In other words, this was with a phone that only had two applications that wanted alerts in this case. And on that right-hand column, what you're looking at there is the decrease in standby time if you had this non-infringing alternative of a persistent connection to each of two apps or two application servers.

Q. So what does the 25 percent -- percentage decrease number mean?

A. You'd lose 25 percent of your -- of your battery standby time.

Q. If you had two applications?

A. Well, and the non-infringing method. If you

were going direct with these persistent connections from each app -- two apps, each to their own respective servers.

Q. And in your calculations, what did you use as the frequency for the Keep Alive signal?

A. These were based at 30 minutes.

Q. Once --

A. That's --

Q. -- every 30 minutes?

A. That's the most conservative number that I -- I felt I could use.

Q. Why was that the most conservative?

A. That's the standard time out for -- for most of these WAPs or for the cell carriers. Some are -- some need it more often, but 30 minutes is the longest normal one you see.

Q. Can you give us briefly an example of how this spreadsheet works? And let's start first with if the phone has just one application, how's -- let me back up for a second. Let's say you have a phone and it's going to use the non-infringing alternative of maintaining a persistent connection directly to the application provider, instead of using the Google system. How does -- how do those two things match up in terms of the battery life impact?

A. Well, they're the same. A -- a connection is a connection in this sense. As long as we're still talking about these persistent connections with these background Keep Alives, it really doesn't matter who it's to. That's not a hundred percent correct statement. If you go into a slow server, it might actually increase it. But for all practical purposes, on the average it's going to be the same. So one connection to GCM draws a certain amount of power. One connection to CNN, for all practical purposes, draws the same amount of power.

Q. And if there are two applications on the phone, both maintaining a persistent connection to the two different application servers, how does that compare to using just the one connection for the infringing GCM service? How does that impact the battery?

A. Well, if we're going to two servers, like CNN and ESPN, as opposed to just one, it's basically 2X. It's two connections. It's twice the power. But if we've got two of these servers we want alerts from and we're using GCM, we've still only got one connection. Whether it's one server or a hundred servers, it's still only one connection. So we see no increase in battery drain in that case, other than having that one connection.

Q. And if you have five applications with five separate persistent connections to the application provider, how that does compare to the GCM as one connection?

A. We're basically looking at five times the drain, if we're having five connections each to their respective servers, but the GCM is still the same as having one connection. It is one connection.

Q. Now, this worksheet, the -- the Android battery worksheet that let's you plug in how many applications you have, did you provide that to SimpleAir's market research expert, Dr. Srinivasan?

A. That's correct.

Q. And he then incorporated the data he took from his survey with that?

A. That's my understanding.

Q. Now, very briefly, we've just gone through and explained the benefit of using the infringing system to set up the non-infringing alternative and showed the impact on battery life. If you recall from opening statements, Google said that our patent, the '914 patent, doesn't say anything about battery life. In your analysis, is that relevant?

A. No, it's not. When the '914 patent was originally proposed, the -- the provisional, and it

talks about this in the patent, the big thing they were trying to save was money, was time. People logged on, check to see if they had new e-mail, and logged back off because they were paying by the minute. But there's a cost associated with doing that check, that polling, if you will.

Now, with your cell phone, every time you poll, you have a cost. But the cost, instead of dollars paid to AOL, is battery energy paid to running down that cell phone.

Q. So to summarize all the opinions you've provided today and yesterday, I've got this slide here.

And can you just briefly walk through this for the jury?

A. Yes. The result, first off, of all this analysis and testing and everything is that Google does infringe Claims 1, 2, 3, 7, and 22 out of the '914 patent. They perform all of the steps for the third-party apps and also for the first-party Google apps, whether it goes through the frontend or the -- the backend in the case of those first parties.

Google infringes hundreds of millions of times a day. I think that's exquisitely conservative, but I don't believe it could possibly be any less. And Google's best non-infringing alternative, in my opinion,

would be this persistent connection to each separate application server. I don't consider that a good alternative, but I think it's their best one.

MR. EICHMANN: Thank you. Nothing further at this time.

THE COURT: You pass the witness?

MR. EICHMANN: I do.

THE COURT: Approach the bench, Counsel.

(Bench conference.)

THE COURT: We had a pretty big discussion yesterday about confidential information and sealing the courtroom. I have missed it if it happened so far. Is it still coming in?

MR. EICHMANN: It hasn't come in yet.

MR. STOCKWELL: No, that's the -- that's for Mr. Mills. Remember, on the source code, the Court --

THE COURT: We're not having it in on Knox?

MR. EICHMANN: Correct.

MR. STOCKWELL: Well, except for the source code. We'd like to go back and redact anything in the transcript where he's talking about the source code.

THE COURT: I'm not talking about a

motion to redact now.

MR. STOCKWELL: Right.

THE COURT: I'm talking about sealing the courtroom per se.

MR. EICHMANN: Correct. Yeah, that's -- that's later.

THE COURT: I thought it was coming in on Knox.

MR. EICHMANN: No, not until Mills. And even after him, we've got Srinivasan and --

THE COURT: How long do you think your cross is going to be?

MR. STOCKWELL: 45 minutes to an hour.

THE COURT: Okay. Let's go.

(Bench conference concluded.)

THE COURT: All right. Cross-examination of the witness by the Defendant.

MR. STOCKWELL: Your Honor, I have some materials for Dr. Knox that I might use during cross-examination. Can I have a colleague to provide those to him?

THE COURT: You have leave to present them to the witness.

All right. Let's proceed.

CROSS-EXAMINATION

BY MR. STOCKWELL:

Q. Good morning, Dr. Knox.

A. Good morning.

Q. The first thing -- I'll start where you left off with the battery life. The first thing you did when you were hired in this case was to do some research in battery life, right?

A. Well, no. The first thing was to review the patent.

Q. Okay. But before you looked at Google's messaging service or their documents, you started doing your investigation into battery life, didn't you?

A. That's correct.

Q. Okay. Now, you ended by critiquing my opening. Remember that? You talked about how, well, doesn't -- doesn't matter, but what I said in opening was that the '914 patent doesn't say a single word about battery live. Do you remember that?

A. I do.

Q. Do you agree with me on that?

A. That it doesn't use the phrase battery life, yes, that is correct.

Q. Okay. So that's something we're in agreement with?

A. Yes.

Q. Okay. And when the patent was filed, it does -- it didn't say anything about persistent connections, did it?

A. That is correct.

Q. Okay. So that's -- that persistent connection, that's something that Google uses and Google developed, right?

A. Well, certainly something Google uses. I'm not convinced Google developed it.

Q. It's standard technology -- standard modern technology?

A. Yes, at this point. I don't believe it was a term that was available at the time of the '914 patent.

Q. And it was not -- a persistent connection was not something used by this AirMedia Live service or product that we heard about in opening?

A. That is correct.

Q. Okay. Now, the reason you focused first on battery life before looking into whether Google infringes is that's what SimpleAir's lawyers asked you to do?

A. No, sir. The reason I looked first at battery life is I was able to order and receive Android phones in a timely fashion. It took many, many months to be able to get information from Google and also to be able

to inspect their code. So I started with what I could do first.

Q. So your testimony is that before you understood Google Cloud Messaging and before you looked at those documents, you investigated battery life because you were waiting on Google, not because the lawyers asked you to do that first?

A. Well, we need to be clear here.

Q. I'm just asking if that's your testimony, yes or no?

A. Well, I don't think I can answer that yes or no.

Q. Okay.

A. There is some Google information.

THE COURT: Just a minute, gentlemen.

First of all, I want to caution you both about talking over the other. I can see that we're headed toward that already.

And, Dr. Knox, you'll need to limit your responses to the questions asked.

Mr. Stockwell, go ahead and ask your next question and then we'll proceed.

MR. STOCKWELL: Yes.

Q. (By Mr. Stockwell) Dr. Knox, look at your notebook. It says deposition. There's two notebooks

there. It says deposition transcripts.

A. Yes.

Q. Okay. Flip over to the deposition that was taken of you in this case. You remember you had your deposition taken?

A. Yes.

Q. And you remember you swore under oath to testify and tell the truth?

A. That's correct.

Q. Okay. So turn in that deposition -- it's the first volume -- to Page 20, Line 25.

A. Yes.

Q. Sorry, Page 20, Line 20 to Lines 24. Do you have that?

A. I do.

Q. Okay. So here's my question. So let me ask this question. We discussed that the first thing that you did when engaged in this matter was battery testing, correct?

23. Answer: To the best of my recollection, that was the first thing I was asked to do. Do you see that answer?

A. I do.

Q. And the person -- the people that asked you to do that were SimpleAir's lawyers, sir, correct?

A. That would be correct.

Q. Okay. Now, the other thing that the -- that you testified about is your test focused on battery standby time, right?

A. That's correct.

Q. And standby time is how long the phone can sit there and receive notifications, right?

A. Well, the standby time is how long it can sit there and still be -- have enough power to be operational.

Q. And receive notifications?

A. Actually, that's not part of the standby time.

Q. Well, you were -- some of the phones you were testing, they were receiving notifications, you were showing the battery life go down, sir, were they not?

A. That's correct. That's the impact on standby time.

Q. Thank you for clarifying that. Okay. So -- now, when you're doing those tests, the phone wasn't being used in any other way, was it?

A. That's correct.

Q. So it wasn't being used to surf the Internet or make a phone call or play a game?

A. That's correct.

Q. Okay. And you didn't perform a usage study of

use of notifications or receipt of notifications while doing other things on the phone, did you, sir?

A. That's correct.

Q. You focused only on standby time as it related to receiving these notifications?

A. That's correct.

Q. And the reason you focused on that sort of standby time is because SimpleAir's counsel asked you to focus on that, didn't they?

A. Well, that's the time that I was looking at the impact on.

Q. Is that yes or no, sir?

A. I'm trying to decide if that's yes or no.

THE COURT: Well, let him -- let him finish his answer before you challenge it.

MR. STOCKWELL: Okay.

THE COURT: Let's -- let's try to -- let's try to move forward on a reasonable basis. Let's -- go ahead and answer the question, Dr. Knox.

A. To my recollection, that was the basis that I had to do the comparison on, yes.

Q. (By Mr. Stockwell) And the basis that you had to do the comparison on was because the lawyers asked you to focus on standby time, not usage studies?

A. Well, I was certainly not asked to do a usage

study.

Q. So if you would turn in your deposition, sir, Page 253. Let me know when you're there.

A. I'm on the page.

Q. And Line 11 -- and I'm going to read through Line 15.

QUESTION: Why did not -- why did you not perform any usage study?

ANSWER: Because that wasn't what I was asked to measure or to determine.

QUESTION: And who asked you to study standby time?

ANSWER: Counsel.

Did I read that correctly, sir?

A. You did, sir.

Q. Thank you. Okay. I want to focus a little bit on if you had done a usage test, okay, not just a standby test, you would have seen the usage affect battery life far more than notifications. You agree with that, don't you?

A. No, I can't answer that.

Q. Okay.

A. Because we'd have to talk about how much usage of what kind, compared to how much standby time.

Q. You would agree that normal uses of the phone

are going to use more power than sending those Keep Alive messages that you showed us?

A. If you're asking me if a certain number of minutes wherein it may send one short Keep Alive uses less power than the same number of minutes watching a movie, for example, then the answer is yes.

Q. So watching a movie is going to use a heck of a lot more power than sending those Keep Alive messages?

A. Per a unit of time.

Q. Right. Over -- over a minute. Watching a 30-minute movie is going to send a lot -- use up a lot more power than sending Keep Alives over that 30 minutes?

A. Through the GCM -- through the --

Q. Yes.

A. -- infringing? Yes.

Q. And the spreadsheet that showed the percentage impact, that percentage impact on battery life would have been a lot smaller if you had took into account normal uses of the phone, wouldn't it?

A. Well, that spreadsheet was on standby time, which is a published spec by -- by the phone manufacturers. The phone, if it's being used -- for example, if you're talking on it, doesn't get the standby time. So to that extent, if I understand your

question, that's correct.

Q. So, Dr. Knox, just to clarify, I'm talking about your spreadsheet. You mentioned the phone manufacturer's spreadsheet. You understand I'm talking about your spreadsheet, the one you calculated. Is that clear?

A. That's -- so far.

Q. Okay. And -- and that's how you answered my last question was based on your spreadsheet?

A. Well, my spreadsheet is for standby time. That is published by the manufacturer of the phone.

Q. Okay.

A. The manufacturer gives also typically talk times and other numbers like that. They don't give what you're referring to here, nor did my spreadsheet reflect that.

Q. Okay. Dr. Knox, the percentage impact on battery life that was in your spreadsheet that you testified about today, that would have been smaller if you had taken into account normal uses of the phone?

A. If you're comparing the extra drain on the battery under some usage that includes movie watching or whatever, then since your total battery lifetime would be less, the impact by the Keep Alives would be less.

Q. So is that a yes, sir?

A. It's the closest to one I believe that I can honestly give you.

Q. Fair enough. All right. Let's talk about the patent. So I think -- I'm hoping you and I can agree on a couple of basic things before we dive into these technical details. All the asserted claims in this patent, they're method claims, right?

A. That's correct.

Q. Okay. And that means the claims have steps or words and every one of those steps or words have to actually be performed?

A. That's correct.

Q. So Google has to do every single word in the claim, right?

A. All of the methods -- I'm sorry, all the elements in the method claim have to be performed.

Q. Okay. And -- and when we talk about actual performance, we're talking about they actually have to use every single word. The -- the system is not just capable of using, it actually has to be used, right?

A. It has to practice the infringing element, yes.

Q. And it's not a question of capability. It's a question of actuality, right?

A. Yes, it has to actually do it in order to

infringe.

Q. Okay. So --

MR. STOCKWELL: Can -- can I -- Your Honor, can I pull up -- put up a board here with the claim language just so the witness can refer to that while we go through some of this? Do you mind if I do that?

THE COURT: On the easel.

MR. STOCKWELL: Yes. Yes, sir.

THE COURT: And where do you plan to put that?

MR. STOCKWELL: I was going to put it right here.

THE COURT: That will be fine.

Q. (By Mr. Stockwell) And -- and, Dr. Knox, while I get this set up, if you can't see it real well, I can move it closer to you, just as a memory aid. You know, we're going through this --

A. I'll ask you if I don't --

Q. There's a lot of terms.

A. -- if I -- if I have a problem.

Q. So --

A. I can read that easily, except that I have to lean around.

Q. You may have to move around a little bit.

That's fine. There's not much room here. So let's start at the -- the top here and I've -- I've lettered -- we've lettered these elements on the board. Other than B, we sort of broke up into B1 and B2. Do you see that?

A. I do.

Q. Okay. So let's start at the top with Element A or -- or this step A. That's the transmitting data step. So you would agree that the -- the third-party application providers, the Facebooks, Instagrams, Twitters, I mean, they're not Google, right?

A. The third parties, that is correct.

Q. They're not owned by Google or operated by Google?

A. Google doesn't own them.

Q. Right. And you don't have any opinions that they're -- somehow Google's agents or Google is somehow liable for things they do?

A. The -- we talked earlier about the control that -- that Google exerts over them. I have nothing beyond that.

Q. Okay. Now, whether Facebook or other of these third-party application providers -- whether they decide to transmit a message to Google's messaging server, that's a decision that they make. It's up solely to

them, right?

A. I would agree with that.

Q. And you would agree that Google doesn't direct or control Facebook's decision to send a message through the Google messaging service?

A. Not the decision to send one, yes, that is correct.

Q. And -- and you would agree that Google doesn't direct or control any other third parties' decision to send a message through Google's messaging service?

A. Not to my knowledge, no.

Q. Okay. And none of the things you listed as to what Google was doing to direct or control, none of those things goes to the third-party's decision to use the service and send a message through the Google service, does it, sir?

A. That's correct.

Q. Okay. Now, let's take a look at the -- the GCM diagram that you showed.

MR. STOCKWELL: And if we can pull up, Mr. Barnes, Knox Slide 44.

Q. (By Mr. Stockwell) This was a slide you used yesterday. So you had identified as -- as what you contend to be the central broadcast server everything within the red, right?

A. That's one of two readings of the central broadcast server.

Q. One of two readings. You've got two theories on this, right?

A. Well, there are two different -- I don't know if I'd call it two theories. There are two different ways that you can draw that red line and still have a central broadcast server within it.

MR. STOCKWELL: Right. Let's go to Knox Slide 45.

Q. (By Mr. Stockwell) That's the other way?

A. That is correct.

Q. All right. So in this second way -- I mean, how -- what do you want me to call this, the second way, the second theory, the second alternative? I'll use your --

A. Call it the second central broadcast server.

Q. The second central -- can we do something shorter because --

A. Second CBS.

Q. Second CBS. Okay. Your second CBS omits the GCM frontend, right?

A. That's correct. It omits it from -- it doesn't omit it -- it omits it from the CBS.

Q. Right. Okay. And if we go back to your --

your first theory?

MR. STOCKWELL: Sorry, Slide 45. That slide right there. Thank you.

Q. (By Mr. Stockwell) So in this slide, what you're saying is doing the transmitting, the Step A, you're saying Facebook is transmitting the message, right?

A. The information from the information source would come from Facebook.

Q. Okay. In simple terms, Facebook is transmitting the information?

A. That's correct.

Q. It's a simple concrete example?

A. That's correct.

Q. Okay. And it's transmitting the information to what you contend to be everything in the red, the central broadcast server, right?

A. That is correct.

Q. Okay. Now, let's go back to your -- to your alternate theory.

MR. STOCKWELL: Thank you.

Q. (By Mr. Stockwell) Now, what you're saying is that even if Google doesn't control Facebook's decision to send the message, Google can itself be viewed as transmitting the message if you exclude the frontend

from the definition of central broadcast server? That's the essence of your theory, right?

A. That sounds right, yes.

Q. Okay. Now, if you exclude -- or, excuse me, if you go -- if you go back one. If you include the GCM frontend and the central broadcast server, this theory is irrelevant. It's only when the exclude the frontend that this theory is relevant?

A. I -- I'm sorry. I'm going to have to ask you to explain that.

Q. Let me -- let me see if I can clarify. So under this theory, you're saying that Google's frontend transmits the information to the rest of the central broadcast server, what you've drawn in red here?

A. That's correct.

Q. Okay. So in this case, you're saying Google's transmitting Facebook's data?

A. That's correct.

Q. Okay. Even though before you told us that Facebook was the one that was transmitting the data?

A. Well, that would also be correct.

Q. Okay. Okay. So for this alternative theory, what you're really saying is that Google is taking the data from Facebook and transmitting it on to the central broadcast server; is that fair?

A. That sounds right, yes.

Q. Okay. And now you would agree with me that the claim doesn't say transmitting data taken from an information source to a central broadcast server, right?

A. That's correct. It says transmitting data from an information source.

Q. And -- and I think you can agree with me, sir, that the way this claim works, no one -- no one should add words to the claim?

A. Nor did I.

Q. So -- so your theory that Google is taking data from an information source or -- or it's transmitting data that is taken from an information source, that's not adding any words to the claim; is that your theory?

A. I'm sorry, sir. You've lost me there.

Q. All right.

A. You're the one that added the words to it. What I see there is transmitting data from an information source.

Q. Sir, you just testified that under this theory, Google is transmitting data that is taken from an information source. You're wanting to add the words that is taken right there, aren't you, sir?

A. I see no need to add any words.

Q. Okay. Well, we'll let the jury --
A. I see transmitting data from an information source.
Q. We'll let the jury decide that.
THE COURT: All right. Mr. Stockwell, no need to make sidebar comments about what the jury will decide.
MR. STOCKWELL: I will, Your Honor. Thank you.
THE COURT: Let's move this examination along.
MR. STOCKWELL: Thank you.
Q. (By Mr. Stockwell) I think you can agree that you read Dr. Williams' report?
A. Yes, I did. It's been a while back but I did.
Q. And you understand that he says the claim requires transmitting data from an information source to a central broadcast server, and that a skilled person in this field understands that claim means Facebook transmits the data.
You understand that's his -- his view?
A. I understand that's his view. Yes.
Q. And -- and I know you disagree with that view, but you understand that's his view. Is that fair?
A. Yes, I thought I'd already -- I'm sorry. I

thought I'd already answered that.

Q. And you would agree that if the jury accepts Dr. Williams' testimony on that point, then there's no infringement for the messages that Facebook sends through the GCM service, right?

A. No. I don't believe we -- we agreed to that at all.

Q. So you're saying if the jury accepts Dr. Williams' view, there's still going to be infringement when Facebook sends messages. Is that your testimony?

A. That's my -- that is my understanding of the law. Yes.

Q. Okay. Let's talk about step B, parsing the data with parsers. It's kind of this B1 and B2. Now, we can agree on a couple of things. The Court's definition requires using multiple parsers, right?

A. That's correct.

Q. And those multiple parsers have to operate on the said data?

A. Yes, that's correct.

Q. That's -- that's this language, parsing said data, right?

A. Yes.

Q. And the said data is talking about the data

that's from an information source, right?
A. That's correct. It refers -- when -- when it says said data in a claim or said whatever, it refers back to an earlier usage of the term.
Q. Okay. So the multiple parsers have to correspond to the central broadcast system server -- excuse me -- and they have to operate on the data from an information source?
A. That's correct.
Q. Now, you identified about seven different software routines that you think are doing the parsing in Google's service, fair?
A. In terms of routine names, yes, I believe there are actually many more than that that we showed.
Q. Now, some of those routines are being done in the frontend server, right?
A. That's correct.
Q. And so under your alternative theory where the frontend server is not part of the central broadcast server, those routines aren't going to matter?
A. They would not count as parsers in the central broadcast server. That is correct.
Q. Now, one of the other of the parsers you identified was at the MCS.
MR. STOCKWELL: And let's put up Knox

Slide 76.

Q. (By Mr. Stockwell) Do you remember this testimony?

A. Yes, I do.

Q. This was from yesterday.

MR. STOCKWELL: And if we go to Knox Slide 77.

Q. (By Mr. Stockwell) This is what you said was the source code at the MCS that did the parsing, right?

A. This is part of it. There was another slide, but yes.

Q. Okay. And you're saying -- your testimony is that this source code parses the said data; that is, the data that comes from Facebook?

A. Yes. The -- the information that it receives -- well, it parses. It's a general parsing routine that can handle both directions. It says itself, to/from the client. The client in this case is referring to the phone.

Q. Okay. So your testimony is that this is going to parse the data from Facebook?

A. Yes.

Q. It's not going to parse the data that's coming from a phone. It's going to parse the data from Facebook?

A. Well, I believe it can do both, but, yes, the relevant part we care about is the -- is the transmission from the information source.

Q. And if -- and that's fair. If it was parsing only the data from the phone -- as you said, the client -- then this code wouldn't -- wouldn't be relevant either, would it?

A. Not for what we're talking about, no.

Q. Okay. Fair enough.

MR. STOCKWELL: Now, if we can put up Knox Slide 60.

Q. (By Mr. Stockwell) Under all of your central broadcast alternatives, your CBS 1, your CBS 2, and under all of your parsing testimony you relied on this -- this definition from the Court, right?

A. That's correct.

Q. But in doing that, in looking at the Court's definition, you interpreted the Court's definition breaking or dividing data received from an information source into components as copying the data, didn't you, sir?

A. Actually, I relied on it exactly as it says here. But you have to understand the way computers work. When I extract or I break out or I divide this data, it doesn't automatically erase what was there

before, a computer simply does not work.

I applied this definition the way I believe that it is supposed to be to the way computers work. Copying in the sense of taking a piece -- a component, a subelement of that data and breaking it out into a new variable and assigning that variable the value of that piece of that data would meet my definition -- I'm sorry -- would meet parsing as I understand the Court's definition.

Q. Right. So you interpreted the Court's definition of breaking or dividing as copying information to a new place?

A. I -- I can't accept that, sir, because if I had a string and I copy that whole string, I would not call that parsing under the Court's definition.

Q. Okay. Well, let's -- well, that's -- thank you for that testimony. Let's look at your deposition again.

MR. STOCKWELL: If you could turn to Page 168.

A. I have the page.

Q. (By Mr. Stockwell) Okay. If you could go to Line 8 through 16.

QUESTION: So when you're saying breaking out the information, how is that different from reading the

information?

ANSWER: Because it's setting a copy of that information in a new place. It's breaking it up. I understand that one has to interpret the Court's claim construction in light of how computers work, and I have applied the Court's claim construction, I believe.

Did I read that correctly, sir?

A. As far down as you read it, yes.

Q. Well, let's keep reading.

The next question: So you're interpreting breaking to mean copying?

ANSWER: To mean making a new copy of it somewhere, yes. I'm sorry. A part of that data. What I think it's best illustrated in the negative way -- in the negative what would not constitute parsing would be, for example, simply checking a particular byte in that message to see if it was a 1 versus a 2. That might be considered processing, but it's not -- certainly not parsing.

That was your testimony, was it not, sir?

A. Yes. And I believe that's correct.

Q. Okay. So parsing is not simply deciding if something in the message is a 1 or a 2. In your view, the Court's breaking or dividing means you copy information?

A. Okay. We're -- we've got back to that same problem again. The first part of what you just said, let's just get out of the way. I agree. This 1 or 2 thing, I do not consider nor did I take that as an example of parsing.

The reason I asked you to continue reading was to make sure that we got in what I just addressed with you before, that parsing still has to have this breaking or dividing, and hence, we're talking about copying, as it says here -- I'm sorry -- a part of that data.

Q. Right. Copying. You have to interpret the Court's order as copying?

A. That's the only thing a computer can really do when it breaks or divides data, so yes. But we're talking about parsing here has to be part of that data.

Q. Thank you.

So let's talk about how you applied your interpretation of the Court's construction in light of computers to Google's system or service, okay? Now, you relied on the testimony of Google's witnesses, like Mr. Nerieri, correct?

A. In part, yes.

Q. And you relied on that in part to understand how the source code in the Google service worked?

A. Again, in part. He was speaking on behalf of

Google.

Q. And you looked at Google documents, right?

A. I did.

MR. STOCKWELL: Let's pull up Defendants' Exhibit 204.

Q. (By Mr. Stockwell) This is one of the Google documents that you looked at, right?

A. Yes.

Q. And this is an Android Cloud to Device Messaging framework. It's for Google developers, right?

A. Yes, it's something that if I were going to write code for my own server, my third-party app server, it's a document I would look at.

Q. Okay. And -- and this glossary has a number of definitions within it that apply to Google's service, correct?

A. As I recall, yes.

Q. Okay. So let's look at some of these definitions.

MR. STOCKWELL: If we go down to Page 7. If you can -- thank you. Let's just blow up the -- the -- the data there.

Q. (By Mr. Stockwell) I'm going to ask you about that. So it says field data.key. Do you see that?

A. I do.

Q. And under description next to field, it says payload data expressed as key pairs -- sorry -- key-value pairs, if present, it will be included in the intent as application data with the key. There's no limit on the number of key-value pairs, though there is a value on the total size of the message, optional.

Do you see that?

A. I do.

Q. Okay. The data is the actual message content that's coming from the application provider, right?

A. I'm sorry. Ask that again, please.

Q. Okay. So you talked about -- you kept talking about how you'd like to get a severe weather warning. That was one of your examples of an app?

A. Yes.

Q. Okay. So, you know, a screen pops up, tornado is heading our way. Duck and cover; that's the message, right?

A. Except when I grew up, duck and cover had a different meaning.

Q. Well, that's probably true, sir.

A. But --

Q. So let's assume --

A. -- that's the message.

Q. -- that's the message, duck and cover.

Okay. That's going to be in the data field, right?

A. I don't know that.

Q. You don't know that?

A. No, sir.

Q. Okay.

A. The --

Q. I'm not asking a question. I'm just confirming. You don't know that?

A. Yeah.

Q. None of the -- the routines that you identified as parsing break or divide the data as defined in this Google document that's in the message from Facebook or another application, do they, sir?

A. They don't do what I described as parsing of this field that Google has chosen to call data.

Q. Okay. So that means that duck and cover is never divided up into duck/cover, right?

A. If that were what the app server put in this field, then this field would be extracted out from the data that was sent from the information source, but it would not be broken further down below that, at least until it reached the telephone.

Q. Right. And you gave the example -- I think you had a slide up of parsing a sentence, something

about Jack eating an apple?

A. Jack ate the red apple.

Q. Ate the red apple, right. So if that's the message -- if that's the date Google sends, that data stays intact all the way through the Google messaging service, right?

A. Well, we're going to have a problem if you keep referring to that as the data without defining it as this one field here.

Q. Fair enough.

A. This field is called data, but that's not what I am calling the data from the information source.

Q. And I understand that's not what you're calling the data from the information source. But data, as Google defined the data, which was the message, okay? You got that -- you got that in mind?

I understand you disagree with that, but do you have that in mind, sir?

A. Well, we still have a problem with that. There is a field here which Google named data, just as an arbitrary name. It could be named X. As long as GCM recognized it as X, it wouldn't matter. Google themselves -- you kept saying Google defined it as data, but data is used by Google to refer to not just that field but many other fields as well.

Q. Okay. Fair enough. Let's move on. Making a different point.

The message, duck and cover, if you're sending that through the Google service, it never gets divided up into duck and cover, right?

A. That payload does not. That is correct.

Q. Thank you.

A. It may get split when it does the stanza splitting, but I did not count that as an example of parsing.

Q. Now --

THE COURT: Let's -- let's take a -- let me interrupt for just a minute.

We probably need to take a morning break, ladies and gentlemen. There's probably not a perfect time to do it, but it appears that this cross-examination is going to go on for some additional time. So I'm not going to wait any longer.

I'm going to give you a short recess, let you return to the jury room, stretch your legs, get a drink of water. Don't discuss the case among yourselves. And we'll be back in here shortly and continue with the Defendants' cross-examination.

You're excused to the jury room at this time for recess.

COURT SECURITY OFFICER: All rise.

(Jury out.)

THE COURT: All right. We're going to remain in recess for about 15 minutes. I want to see Mr. Eichmann, Mr. Capshaw, Mr. Stockwell, and Ms. Ainsworth in chambers.

(Recess.)

COURT SECURITY OFFICER: All rise.

THE COURT: Be seated, please.

All right. Counsel, before I bring the jury in, we -- did you have an opportunity to meet and confer about the issue regarding invoking the Rule, and was there any resolution?

MR. STOCKWELL: Not quite at this time, Your Honor. We agreed to wait until lunch break to delve into it, because we need to get a proffer from them on what they're covering on Mr. Payne.

THE COURT: So you're going to continue to meet and confer over the lunch hour?

MR. STOCKWELL: Yes, Your Honor.

MR. EICHMANN: Yes, Your Honor.

THE COURT: So I'll expect an answer after we reconvene after lunch?

MR. STOCKWELL: Yes, Your Honor.

THE COURT: Okay. Let's bring the jury

back in, Mr. Floyd.

COURT SECURITY OFFICER: All rise for the jury.

(Jury in.)

THE COURT: Be seated, ladies and gentlemen.

All right. We'll continue with the Defendants' cross-examination of the witness.

MR. STOCKWELL: Thank you, Your Honor.

THE COURT: You may proceed, Counsel.

MR. STOCKWELL: Thank you, Your Honor.

Q. (By Mr. Stockwell) Dr. Knox, before the break, we were on this data issue, and I just want to confirm that the payload data that's described in this document, that's the same as the actual content of the message that's sent.

A. I don't know what you mean by content of the message that's sent.

Q. We were talking about the notification being something like duck and cover.

A. Well, the -- what's sent is this entire string of data.

Q. Right.

A. But within there, whatever the information source puts in there in this field, if anything, is what

gets sent as that payload parameter. Yes.
Q. And so the payload parameter is the message itself, duck and cover?
A. It's information between the -- the server and the application.
Q. So is it not the message itself, Dr. Knox?
A. That I really can't answer, because it could be something that has a different meaning from what is displayed on the alert.
Q. So you don't know whether duck and cover, if that's the message being displayed, is going to be put into this field in Google's service?
A. Ah. In -- generally, it may or may not be. That is correct. It's information to the application. What -- how the application displays it in an alert is up to the application.
Q. So, Dr. Knox, you read Dr. Williams' report, correct?
A. Yes, I did.
Q. And you understand that he contends that engineers in this field understand data to be the message content itself. You understand that?
A. I understand that's the opinion he espoused. Yes.
Q. And would you agree that if the jury agrees

with Dr. Williams, there's not any infringement in this case?

A. Well, since I don't consider that to be correct, it's not something I'd formed an opinion on. The -- I do agree that while that may be divided within the GCM code, I have not listed it as being parsed.

Q. Thank you.

Let's move on to Step 2. This is the -- the information gateway step, and it talks about assigning -- assigning addresses and building data blocks.

Do you see that language?

A. I do.

Q. Okay. So in the Google service --

MR. STOCKWELL: If you could put up Knox Slide 45, Mr. Barnes.

Q. (By Mr. Stockwell) There is something called a post-request or post-send request?

A. Yes.

Q. Do you see that?

A. Yes.

Q. Okay. Now, within that post-send from the third-party server, from Facebook, there will be something called the registration ID, right?

A. That's correct.

Q. Okay. Now, Google refers to the registration ID as the address?

A. I'm sorry. Was that a question?

Q. Yes.

A. I'm aware that Google does that. Yes.

Q. Okay. And you're aware that SimpleAir itself identified the registration ID as the address in its infringement contentions?

A. No, I don't believe that I am.

Q. Well, you're familiar with SimpleAir's infringement contentions?

A. Yes.

Q. Okay.

A. I just don't recall that.

Q. Look in your -- one of your notebooks there has some exhibits. There's a Plaintiff's Exhibit 527.

A. Can you tell me, is this the black one or the white one?

Q. I'm not sure. It should have a cover that says Exhibits on it.

A. Ah, yes, the black one.

And what was that number again?

Q. It's towards the very end of the notebook. It's Plaintiff's Exhibit 527.

A. I think I found it.

Q. Okay. And that's Plaintiff SimpleAir's disclosure of asserted claims and infringement contentions under PR 3-1, right, at the cover there.

Do you see that?

A. Yes, I do.

MR. EICHMANN: Your Honor, objection. May I approach?

THE COURT: Approach the bench.

(Bench conference.)

MR. EICHMANN: Your Honor, our infringement contentions are not in evidence. They're not preadmitted and we're not impeaching that. He's -- we've got alternative theories that we've set out in the beginning of the case. They're broad infringement contentions. They're not his opinions. They're not sworn testimony. And they're not -- it's not preadmitted. He's just basically reading our infringement contentions.

THE COURT: What's the response?

MR. EICHMANN: Well, the response is the witness is agreeing with the contentions and they are a party admission. I mean, I can certainly impeach him with his own client's infringement contentions, which he just testified he's familiar with.

He said that he's aware -- he didn't say

he wrote them and he's not -- he's not SimpleAir. He's an expert. He's not impeached by our contentions nor impeached by the complaint that we filed.

THE COURT: At this point, I'll allow it. If it continues or becomes a further problem, I'm not going to prejudice you from reurging this, but at this point, I'm going to allow it.

MR. EICHMANN: Okay.

THE COURT: Now, while I have you at the bench, let's talk about these deposition clips that follow Dr. Knox. And you can either remember this or one of you can go get a legal pad and write it down.

MR. EICHMANN: I can remember.

THE COURT: Well, since they've left, we'll wait until they get back.

Okay. On Clip N-16, Mr. Nerieri, you've got Google's designation to the Plaintiff's designation -- Google's objection to the Plaintiff's designation on H-172. I'm going to grant the objection. I'm going to exclude the Plaintiff's designation. And consequently, I'm going to exclude the counter-designation.

On Clip N-49, also Nerieri, there's an objection by the Plaintiff to the Defendants' counter-designation. Basically, that it's remote and

that it's inadequate in as far as context. I'm not going to strike the Defendants' counter-designation, which as designated it's from Page 345, Lines 14 through 18.

I'm going to expand the counter-designation so that it now is Page 345, Lines 3 through 18. I think that will put it in complete context.

On Clip L --

MR. EICHMANN: Your Honor, if we withdraw our objection, can we just play the original counter and just let it go, because otherwise we can't prepare that clip?

THE COURT: If you want to withdraw your objection to the counter, you may.

MR. EICHMANN: We do so.

THE COURT: Okay. Then apparently the counter-designation is withdrawn and the designation is -- the objection to the counter-designation is withdrawn. They'll play it as originally designated.

Now, No. 3 is Clip L-10, Nerieri. Defendants objected to the Plaintiff's designation. I'm going to deny the objection. The clip stays in. And the counter stays in.

On Srinivasan, there's a clip at

Pages 73, 74, 75 the Plaintiff's objected to, and I'm going to grant that -- I'm going to grant that objection and delete that counter by the Defendant.

Also there's a counter-designation by the Defendant from Page 77 that's objected to as including an incomplete answer, and I'm going to grant that objection and exclude that counter-designation.

Any questions?

MR. EICHMANN: No.

MS. AINSWORTH: No, Your Honor.

THE COURT: All right. Let's continue.

(Bench conference concluded.)

THE COURT: All right. Let's continue.

Q. (By Mr. Stockwell) So, Dr. Knox, if you could turn to Page 5 of the document that's attached to Exhibit 527.

A. Yes.

Q. There's a chart you may have to sort of rotate it. There's an element next to '914, Claim 1, element (c). Do you see that?

A. I do.

Q. And about middle of the paragraph, do you see where it says the addresses?

A. Yes, I do.

Q. The addresses are met by the registration ID

that identifies the target application and the target Android phone or tablet.

Did I read that correctly, sir?

A. You did.

Q. Thank you.

MR. STOCKWELL: Now, if we go back to Knox Slide 45, Mr. Barnes.

Q. (By Mr. Stockwell) The -- the registration ID that Facebook puts into a message and posts to Google's messaging service, Google uses that to forward the message, correct?

A. It uses information in that to find information to find information to eventually be able to come up with an address. Yes.

Q. And if you -- if you don't have the registration ID, Google can't do anything with the message?

A. That is correct. Google will -- will drop the message.

Q. Okay. So I want to talk a little bit about the -- the patent.

The way you apply the addresses here, you say anything -- any of these internal servers can be addressed, right?

A. I don't know if I say that, but, yes, each one

of them will have an address.

Q. Okay. And -- and the addresses you say Google assigns are the addresses for some of the Google servers, like the address of the MCS?

A. The thing that I specifically referenced in terms of addressing these data blocks was the address of the MCS, that is --

Q. Okay.

A. I'm sorry. It should say a specific MCS end point.

Q. Fair enough.

And that's what you say is the addresses of the specific MCS end point?

A. For meeting that requirement, yes.

Q. Okay. Now, let's -- let's talk about the patent. The description in the patent is a paging system, right?

A. That's correct.

Q. And the information gateway in the patent that's described assigned something called cap codes, right?

A. In the preferred embodiment, yes.

Q. And the cap codes are addresses for the receivers, right?

A. They are the things that the receiver compares

against, yes, to accept or not accept the message.

Q. Okay. So what -- what's being addressed in the description of the patent is the actual receiver next to the computer, correct?

A. In the preferred embodiment, that is correct.

Q. Okay.

MR. STOCKWELL: Now, if we pull up Knox Slide S85.

Q. (By Mr. Stockwell) What I understand your contention to be is that the Buzz router must assign addresses, correct?

A. Well, the requirement actually is that the information gateway must assign addresses to the data blocks. I have identified the Buzz router as meeting the requirements of the information gateway.

Q. Fair enough. I dropped a logic sequence out of that.

So you agree -- you would agree with me that the Buzz router doesn't assign the address of a receiver, right?

A. It does not assign an address that the telephone itself recognizes. It assigns an address that is a one-to-one route to that receiver.

Q. Okay.

MR. STOCKWELL: If we go to Knox Slide --

let's stay there for just a minute.

Q. (By Mr. Stockwell) The Buzz router, the way you say it assigns an address, is it looks up the MCS end point, correct?

A. Yeah. Well, it takes the Android ID and looks up in the subscription database, and what gets back out of that, what it pulls out of that file is the address of a specific MCS end point.

Q. Just one MCS end point?

A. That's correct.

Q. Just one address?

A. That's correct.

Q. Okay. And there's a --

A. One address at -- I'm sorry. One address at one time, yes.

Q. That's right. There's a -- there's a one-to-one correspondence between the message that comes in through the GCM frontend and the MCS address by which it's routed to the MCS; is that fair?

A. No, sir, not at all.

Q. Okay. Now, you read Dr. Williams' report?

A. I did.

Q. And you're familiar with his view that engineers in this field would understand this patent from reading the patent and the context to mean that the

addresses are the addresses of the receiver. You understand that's what he --

A. I understand that that's what he says. Yes.

Q. And if the jury agrees with Dr. Williams, that the address in this patent to skilled persons is the address of a receiver, you would agree there's no infringement?

A. Well, I would agree that what I have identified as the address that's assigned by the Buzz router is not the address of the receiver.

Q. Okay. So let's move on to Step D. Step D requires the transmission gateway to prepare the data blocks for transmission?

A. That is correct.

Q. Now, you identified the MCS as the transmission gateway, correct?

A. That's correct, or more specifically, the MCS end point.

Q. Okay. So --

A. We show it as MCS because they're all alike.

Q. Right. And the -- the -- the MCS is -- the MCS end point is not the address of the phone, is it?

A. I'm sorry. That's confusing. The MCS end point is software.

Q. Right. Okay. So the MCS end point is

software?
A. Yes.
Q. And it's not the address of the phone?
A. It's -- well, the MCS end point is software. It's not an address at all. The address of the MCS end point is just that, the address of the server and the software running on it, which is the MCS end point for that phone.
Q. So the -- the -- the address of the MCS end point is the address of the MCS server, not the address of the phone?
A. Yes. And more specifically, instantiations, the MCS end point and multiple copies of an MCS end point may be running on one piece of hardware.
Q. Okay. Now, you would agree that when a single message is transmitted by an application provider, it's only forwarded by Google's messaging service to one phone or tablet?
A. I'm sorry. Would you ask that again, please?
Q. You would agree that when a single message with a single registration ID is forwarded through Google's messaging service, it's only going to go to a single corresponding phone or tablet?
A. Okay. I believe that's a different question than what you asked just a moment ago.

The latter question is yes. The answer to the former question is no.

Q. Okay. Now, let's turn to Step E. You know, when you were discussing this, you were showing us Knox Slide 102.

MR. STOCKWELL: If we could put that up.

Q. (By Mr. Stockwell) And this Step E is the step where you have to -- I'm sorry -- this is Step -- I'm talking about Step D.

You have to transmit the data blocks to the transmission gateway for preparing the data blocks, right?

A. That's correct.

Q. Now, this is a slide that you showed us for Step D, and it's your contention that the MCS prepares the data blocks for transmission because it interfaces with these other transmission resources that you identified here; is that fair?

A. No, sir.

Q. Okay. What's your contention under this slide? Because I thought I stated that fairly.

A. No. The MCS end point -- my contention is that the MCS end point does both requirements under that element. It prepares the data blocks and it interfaces with these other transmission things. It doesn't

prepare the data blocks because it interfaces or vice versa.

Q. Okay. And I -- I'm -- but I -- and I understand you also talk about preparing data blocks. I'm just focusing on the interfacing part.

A. Okay.

Q. Your contention is the MCS interfaces with the other transmission resources. You show this figure right here. That's the other transmission resources?

A. Yes.

Q. Looks --

A. That's kind of cartoonishly shown, but yes.

Q. It looks like a cell tower to me.

A. It certainly could be.

Q. Okay. Now, let's look at a figure you annotated in your report, the --

MR. STOCKWELL: If you can pull up the Defendants' Exhibit 458, Page 8.

Q. (By Mr. Stockwell) You recognize this figure from your report, correct, sir?

A. Yes, sir. That's Figure 1 out of the '914 patent.

Q. And you added the markings here?

A. Although that one says 433 on the bottom of it, I point out.

Q. And it's the -- but it's the same figure in the '914 patent?
A. That is correct.
Q. Okay. And you added the annotations?
A. Yes. You're talking about the numbers?
Q. Right.
A. That's correct.
Q. And there's a No. 3 there that labels the carrier antenna, right?
A. Yes.
Q. And you labeled that because it was the key element that transmits the data to the computer?
A. It's where the -- the signal is turned into a wireless form, yes, for transmission.
Q. So the -- so does it transmit or not?
A. Well, one could certainly say that it does.
Q. Okay.
A. But it's not the only element that meets that requirement of transmit.
Q. Okay. So let's go to Step E. You say transmitting preprocessed data to receivers communicating with said devices.
Do you see that language?
A. I do.
Q. All right. I want to compare that to Google's

service. You would agree that the actual transmission of a message to an Android phone is going to be handled by the cellular carrier or the Internet service provider?

A. Well, I would agree that the actual transmission is handled by the MCS and the GCM, but it does interface to intermediate resources in the act of clearing out that transmission.

Q. I'm not talking about the interfacing. I'm talking about the actual transmission.

Would you agree that the actual transmission of a message to an Android phone is handled by a cellular carrier?

A. I -- I believe my answer is still the correct one. The MCS transmits that message.

Q. So, sir, can you turn to your deposition? Could you turn to Page 221? And if you refer to Line 20, I'm going to read through Line 25.

Do you have that -- are you there, sir?

A. I am.

Q. Now, I asked: But the -- but the carriers and ISPs do actually transmit the data, right?

And you answered: They are one of the people -- that's the wrong word -- one of the installations that transmit the data.

That was your answer, sir?
A. That's correct. And it's still correct.
Q. Now, the cellular carriers that are in existence today, AT&T and Verizon, Google doesn't own or operate those?
A. No, sir. They're what's called common carriers.
Q. Right. And Google doesn't run a common carrier?
A. I have no knowledge one way or the other of that.
Q. And, again, you've looked at Dr. Williams' report, right?
A. Yes, I did.
Q. And you understand he says, well, the way this step works is it has to be transmitted by the cellular carrier, and that's not happening in the Google messaging service.
I know you don't agree with that, but you understand he says that?
A. I do.
Q. And if the -- the jury accepts Dr. Williams' testimony on that point, you would agree there's no infringement by Google?
A. In this case, I think I would disagree with

that.

Q. Okay. Let's move on to Step F. Step F requires instantaneously notifying the devices of receipt when they're online or offline.

I know there's more words there, but I'm just trying to orient you. Is that a fair summary?

A. That's correct.

Q. Okay. And the devices to be notified are the phones or tablets?

A. Just a moment.

Well, the devices in this case is the remote computing device, the CPU.

Q. Okay. Fair -- fair enough.

And actually, let's pull up the -- your report.

MR. STOCKWELL: Page 177 of Dr. Knox's report, if you could just blow that up.

Q. (By Mr. Stockwell) This is a -- a tear-down of an HTC phone in your report, correct? It's one of the ones you showed in your report?

A. Probably. I can't tell from just this picture.

Q. Okay. But the -- the chip that's outlined in orange, that's the CPU, and it's made by Qualcomm?

A. That's correct.

Q. And that's what you say is the device that gets notified?
A. Yeah. The CPU, the remote computing device, yes.
Q. And the -- the -- the transceiver/receiver is outlined. It's hard to see the colors on here. I guess it's to the left after the yellow in red there.
A. Yeah. I think it's kind of a burnt orange, being from UT.
Q. Right there?
A. But, yes. The RTR is the receiver/transmitter designation they use.
Q. Okay. And -- and we can agree that these components, they're not -- Google doesn't make these components, right?
A. Yes, Google does not manufacture those components.
Q. And at least for this transceiver part here, Google doesn't provide any software inside that transceiver?
A. That's the -- I don't know if that's an Exynos or what, but that's a Qualcomm chip and that would be correct.
Q. Okay. Now, Step F requires the device to be instantaneously notified whether or not it's online or

offline from a data channel. And just orienting to the next limitation --

A. Yes.

Q. -- right? Okay. So to perform Step F, SimpleAir has to show that an information source like Facebook transmits even when there's a connection between Facebook and the device, right?

A. No, sir.

Q. If you don't -- if you don't understand the question, let me know and I'll try to rephrase it.

A. I was making sure I did understand the question. I do. And, no, sir, I don't agree with it.

Q. Okay. So let me -- let me see if I can set this up. So if -- if I'm on my phone and I'm talking to my -- I've got my Facebook app open, okay?

A. Uh-huh.

Q. So there's a connection there?

A. Yes, sir.

Q. Are you with me?

A. I'm -- I'm following you.

Q. So that's an on -- I'm online with the information source, right?

A. I'll accept that as a hypothetical.

Q. Okay. Now, while I'm online with the information source, in order for this Step F to be met,

Facebook also has to send a message to me through the Google messaging service?

A. No.

Q. That's what you disagree with?

A. That's what I disagree with.

Q. Okay. Well, let's -- let's talk about that. Because you disagree with that, you didn't see any evidence that Facebook, while the user's online to the Facebook app, will send messages also through the Google messaging service?

A. If what you're asking me is did I check that or did I try that, no, I didn't because it wasn't necessary.

Q. In your view it wasn't relevant?

A. It wasn't.

Q. Okay.

A. The requirement is given down there in Element F. That requirement is met.

Q. Okay. And you didn't look for any other evidence that when a third-party application provider has a connection to a user through the application, they will also send messages through Google's messaging service to that user?

A. Again, there was no reason to check that.

Q. But you didn't check it?

A. I did not.
Q. Okay.
A. That is correct.
Q. So you -- you don't have any evidence that any information source, while it's online to an Android device, would transmit information through the GCM service to that device?
A. That's correct. Since it's not part of the -- of the claim, I did not check that either way.
Q. Okay.
A. I certainly don't know that it doesn't, but I don't know that it does.
Q. You do agree that for purposes of the claim, this -- this data channel has to connect back to the same information source that's transmitting the data?
A. That's correct. You're talking about when it's online?
Q. Right, when it's online?
A. Yes.
Q. Okay. Okay. Thank you. Now, I want to turn to a topic that you had -- I think you identified it as how many times Google infringes. And you kind of went through some statistics on the messages?
A. I was asked about that, yes.
Q. Okay. So we can agree that in terms of your

looking at the message volume for Google, you've got to look at messages that actually went through servers located in the United States, right?

A. That's correct.

Q. And you have to look at messages that were actually delivered to phones located in the United States?

A. That's correct.

Q. And we --

A. At least my understanding of -- the way the law works.

Q. And the reason you need to do that is all of these steps have to be performed in the United States in order for there to be any kind of infringement of Claim 1?

A. Again, I'm not here as a patent attorney, but I have been instructed in how the -- the law should be read in this case, and that is my understanding, yes.

MR. STOCKWELL: And could you bring up Knox Slide 45, please?

Q. (By Mr. Stockwell) Now, you -- you understand that currently Google has some of these servers, the MCS, the Buzz, the backend, the frontend, located both -- at data centers both within the United States and outside of the United States?

A. Yes, I am.
Q. Okay.
A. That was based on testimony of Mr. Nerieri, I believe.
Q. Right. And if -- if the frontend server is outside the United States, then your alternative where you keep the frontend server as part of the central broadcast server, none of the messages that flow through that are going to infringe?
A. Make sure I understand your question. If we have the frontend server outside of the United States and we're using the frontend server as a path for these messages, I believe, to my understanding of the law, that would be correct.
Q. Well, let me just -- let me just do this. Look in your notebook --
MR. STOCKWELL: Or actually let's pull up Defendants' Exhibit 458.
Q. (By Mr. Stockwell) I want to refresh your recollection of this.
MR. STOCKWELL: That's Knox report at Page 53.
A. One moment, I've got the wrong book open here.
MR. STOCKWELL: Okay. If you could highlight --

Q. (By Mr. Stockwell) I've got it up on the screen here, if you --

A. Okay. That may be easier.

Q. Okay.

MR. STOCKWELL: Let's -- see where it says provided right here, Jason? Let's highlight that language and the -- and the two right there.

Q. (By Mr. Stockwell) Okay. So these -- these are the conditions that you identify in your report for U.S. infringement to occur; is that fair?

A. Yes. And, again, as I say, that is my understanding of how this is -- how the law is supposed to be interpreted in this case.

Q. You're -- you're not a legal expert, but you were given these instructions?

A. That is correct.

Q. Okay.

A. That's a good way to put it. Thank you, sir.

Q. But the way you applied the instructions were you understand that the -- that the message has to flow through a GCM frontend, a backend, and an MCS, each of which has to be located in the United States?

A. Yes. And I'm going to make one correction here. Buzz should be listed there, as well.

Q. And Buzz listed there, as well. Oh, thank

you. And the -- and the target Android was located in the United States, also?

A. At the time the notification was received, yes.

Q. Okay. And you testified --

MR. STOCKWELL: If we can go back up to Page 51 in this report. It's -- there you go. One more page. Thank you.

Q. (By Mr. Stockwell) Now, you recognize this data as some of the data that you pulled from Google's -- I think you said it was their interrogatory response, right?

A. Well, that's -- I don't believe a -- a picture we've seen here in Court yet. But, yes, I do believe that is from a Google interrogatory response.

Q. You -- you -- you relied on this in trying to determine how many messages Google sent through the U.S.?

A. That's correct.

Q. Okay. And for -- according -- and -- and just on the -- the top --

MR. STOCKWELL: Let's just sort of highlight that top row there, Mr. Barnes, if you would. No, no, no, the very top row, the -- the description. Thank you.

Q. (By Mr. Stockwell) So the geo location of the sender IP, that's -- that's where the application server is?
A. That would be correct.
Q. And the location of the data center handling the request, that's the frontend or the -- the frontend/backend?
A. At a minimum, yes.
Q. And the location of the data center delivering the message, that's the MCS?
A. That's correct.
Q. And the geo location of the device, that's where the phone is?
A. Yes, that's correct.
Q. And if you -- you look down to this row right here, you can see Google's already delivering messages through non-U.S. servers to U.S. phones, right?
A. Yes, that's correct.
Q. And they're doing it here, right, because the -- the frontend is going to be outside the U.S. right here, right?
A. Yes.
Q. And they're doing it here, right?
A. Yes.
Q. So Google's already got data centers with some

of these servers, they're delivering millions of messages to U.S. subscribers, no problem?

A. Yes. I'm aware they have some -- some data centers outside of the U.S.

Q. And what you -- what you focused on in trying to determine how many messages they were delivering through just U.S. servers, where -- where all three of these --

MR. STOCKWELL: If you could take the other highlighting down, Jason? I'm not sure how to clear that off. Can you take the other yellow down there? Thank you.

Q. (By Mr. Stockwell) All three of these right here have to be in the U.S., right?

A. Well, that's one line, yes.

Q. That's -- I know it's one --

A. Yeah.

Q. I mean, there's other lines in here, and I don't want to have to --

A. Well, other lines that are relevant to this, but, yes.

Q. But those are -- the lines that you focused on for determining how many U.S. messages Google actually routed through U.S. servers were the ones where you lined up the U.S. in these three columns?

A. Well, those are certainly ones that would be included. They're not the only ones that certainly can be part of what meets this requirement.

Q. Right. Would it -- would it surprise you, sir, that if you added up all these U.S. lines, the total messaging traffic that Google sends through only U.S. servers is only 7 percent of those 11 billion messages a day? Would that surprise you?

A. Actually, yes, it would.

Q. Okay. Now --

MR. STOCKWELL: You can take that down.

Q. (By Mr. Stockwell) You take the position that Google's routing all of its traffic through servers outside the United States wouldn't be acceptable because SimpleAir received the '279 patent. It was one of the last slides that you -- you showed in your presentation?

A. It's not the only reason I feel that way, but, yes, that -- my understanding is that that would simply get them out of one frying pan and into another.

Q. Okay. And that patent issued in October of 2013?

A. Yes, but it has a -- a date back to a much earlier date, obviously.

Q. Well, that particular application for the '279 patent, that wasn't filed until January of 2011,

correct?

A. That sounds about right.

Q. Okay. And the -- the testimony that you're providing on that, are you -- you're not a damages expert, are you?

A. Please, no. No, sir, I'm not.

Q. But have you -- have you -- you've talked to Mr. Mills, Plaintiff's damages expert in this case, right?

A. Concerning the damages, I don't believe that I have. We have had data exchanged through the attorneys.

Q. Do you -- do you have an understanding that the -- the hypothetical negotiation date for determining damages in your award in this case would be May of 2010?

A. I'm aware of something roughly called the Georgia-Pacific rule. And I vaguely know how that is applied. As to what dates that would apply to, I believe it's -- would be, yes, when you -- when you started practicing the infringing action.

Q. Okay. So when you came up with your view that Google would jump out of the frying pan and into the fire, as you said, you -- your view was that Google would also infringe the '279 patent, right?

A. If we're -- well, I'm confused by your question here. If we're talking about these -- taking

these servers and moving them out of the United States to avoid infringing '914 --

Q. Right.

A. -- then I believe what that would simply mean is that they would still be infringing the '279. They'd still have a patent infringement problem.

Q. Only after October 2013?

A. That, I'm not aware of, sir.

Q. You under --

A. You're -- you're asking me something that I'm not qualified to answer.

Q. Okay. So you don't -- you don't know whether or not Google could have infringed the '279 patent before it issued?

A. You're asking me something that, again, is outside -- I'm an electron pusher.

Q. And I'm just -- I'm just confirming you're not aware of that.

Okay. Now, when you -- when you came up with your view that Google might infringe the '279 patent, if it moved all its servers outside the U.S. or had all its traffic outside the U.S., you didn't write down any of that analysis, did you?

A. Well, first off, you say all of its traffic, and I'm still considering stuff that both originates and

terminates in the United States. My understanding is that limitation would still apply. The '279 was, as you pointed out, recently issued. And there's only been -- I think I did a short couple of page supplementals or something on that, that's all.

Q. All right. So we don't have an analysis on that from you, do we?

A. Certainly nothing in detail.

Q. Thank you.

A. Just, I believe, a one-paragraph opinion.

Q. Thank you.

MR. STOCKWELL: Pass the witness, Your Honor.

THE COURT: Redirect? Do you need to leave that board up, Mr. Eichmann.

MR. EICHMANN: It's fine. Yes, actually.

THE COURT: All right. General rule is when you pass the witness, take your boards down, but if you're going to use it, we'll leave it up.

REDIRECT EXAMINATION

BY MR. EICHMANN:

Q. Dr. Knox, just a few brief points in response.

First, on battery testing, now, you were an expert in the case SimpleAir had against Apple and Blackberry before, right?

A. That's correct.

Q. And in that case, did you do a bunch of testing of their phones and how the battery life was impacted by their accused systems?

MR. STOCKWELL: Object to scope, Your Honor.

MR. EICHMANN: May we approach?

THE COURT: Can you elaborate on your objection, Counsel?

MR. STOCKWELL: If I may approach, as well, Your Honor.

THE COURT: All right. Approach the bench.

(Bench conference.)

MR. STOCKWELL: I didn't ask him any questions about battery life testing he did in the Apple and the RIM cases. And, Your Honor, we have a charge that we've proposed that they are over emphasizing the fact that they had a case against Apple and Blackberry. They raised it yesterday. They're raising it again. They're raising it with every single witness. I would like to get a -- an instruction to the jury generally that this case has got to be decided on the facts of this case, not what happened in an Apple or Blackberry or Microsoft case, given the fact that they've settled.

They keep going back into those. It's prejudicial to us for them to over emphasize it with every single one of their witnesses.

THE COURT: That's two different things.

MR. STOCKWELL: I understand it's two different things.

THE COURT: Let me hear a response first. First, address his scope objection.

MR. EICHMANN: Yes. Your Honor, we produced the portions of the prior reports from Dr. Knox. They asked for them, and we produced it where he tested the Apple stuff and the RIM stuff. They brought of this issue of why did you start with the battery, why did you start testing, because he knew it was an issue from the last case and he knew he could get started on it before they let him in to see the source code.

They're trying to act like he started with the answer key first. That's not true. He started with the battery because he already knew it was an issue. It was an issue last time and he knew how to get going. They have completely opened the door on this, and they have all the evidence on this. And I'm not going to get into all specifics of it, just making that point.

THE COURT: Well, I'm going to overrule

the objection on scope.

On the requested instruction, I'll carry that. And if Counsel continues to go in that direction, I'll consider giving it, and my final instructions will make it clear to the jury their verdict is going to be based on the evidence in this case and this case only, but I'll carry that for the time being, Counsel.

MR. STOCKWELL: Thank you, Your Honor.

THE COURT: All right. Let's continue.

(Bench conference concluded.)

Q. (By Mr. Eichmann) Dr. Knox, just a recap. You were an expert for SimpleAir in the prior case against Apple and Blackberry, right?

A. That's correct.

Q. And they were accused of infringing for their own notification services, right?

A. That's correct.

Q. And in that case you did your own testing on the battery impact of the services on their phones, right?

MR. STOCKWELL: Object, leading.

THE COURT: Sustained.

Q. (By Mr. Eichmann) In your work on the Apple case, did you do battery testing on the Apple phones and the Blackberry phones?

A. Yes, very similar to what I did here.
Q. When you started this case, before Google let you in to see the source code and all their documents and before they had their witnesses show up for depositions, did you know that the phones and the battery life was likely to be an issue in this case, too?
MR. STOCKWELL: Object, leading.
A. Yes -- oh, I'm sorry.
THE COURT: Sustained as to the leading objection.
Rephrase your question, Counsel.
Q. (By Mr. Eichmann) Dr. Knox, how did you know at the start of this case that you would want to test the batteries of the Android phones?
A. Obviously, I was already familiar with the '914 patent, and I know that the '914 refers to this sending of alerts through some set of servers -- in this case, Google's -- just like it did previously in the -- Apple's APNS system. And I knew that that would be an issue because that's one of the key things -- you remember we had a list, and I said the -- the battery life was one of the ones I considered most significant.
Q. And when you did the testing in the Apple case, did you also test the standby time of the battery?

A. In the Apple case, I did not condition the batteries the same way I did in this one. I believe we used the -- the published battery capacity and the specification sheet standby time the same as we did here.

Q. Sir, I wasn't talking about the conditioning part.

A. Okay.

Q. Just -- counsel had asked you how can you use standby time when the phone is not doing anything versus, for example, talk time. That's the -- that's the testimony that I'm referring to.

A. Ah, I understand. I'm sorry, I misunderstood your question.

Q. So my question, sir, is when you did the battery testing in the Apple case, did you also test the impact on the standby time?

A. Yes, very specifically that's what I was looking at.

Q. Why did you think that was appropriate?

A. Well, because that is the correct way to -- to do it. The standby time is something published by the manufacturer, and it says, hey, this is how long you can charge your phone and then leave it before you have to charge it again. And the -- the keep alive directly

impacts that.

Q. In the -- Google's internal documents, where they were testing the impact on battery life themselves, did they also take note of the impact on this standby time of the battery?

A. Yes. Again, that's what they were using as their baseline or their standard to compare against.

Q. And that's in the very documents that we showed you earlier, Exhibits 146 and 54?

A. Right. Those are Google's internal documents from their team that tries to maximize the battery life.

Q. They measure standby time, too?

A. Yes.

Q. You were asked about Element A, and this issue about who does the transmitting. And one question they had is about who decides to transmit the message. Does Google decide or control the decision of Facebook, for example, to send the message? The question is -- is there any step in this entire claim that requires making a decision to transmit?

A. No. The only requirement is that it happen.

Q. To show infringement, we have to show that all of these elements of the claim are met, right?

A. That is correct.

Q. Is there also a step in here anywhere about

deciding to transmit a message?

A. That's not in the claim language.

Q. Do we have to show that to prove infringement?

A. No, sir.

Q. Element C is the one that deals with the information gateway and addresses, and you were asked about the AirMedia system. That's the system that the patent owner came up with back in '96. An example of that is shown in Figure 1; is that correct?

A. That's correct.

Q. This is -- excuse me, this is a diagram from the patent; is that right?

A. Yes.

Q. And what does this diagram show?

A. It's a -- we kind of call it a schematic or a block diagram showing the major components.

Q. In this example shown in the patent, do they -- what kind of system do they use to actually wirelessly transmit the message?

A. Well, it was sent from the -- or it's transmitted out of the central broadcast server, but it went through a paging system, at least that was the -- one of the descriptions.

Q. So if this diagram -- the example given in the patent is about sending messages through a paging

system, and Google clearly doesn't do that, why is there an issue of infringement? Why are we even here today?

A. Well, there's no requirement that it go through a paging system. The requirement is that it transmit to the receivers. And under the Court's definition, it's certainly allowed to interface with other resources to do that.

Q. To prove infringement, do we need to show that Google does exactly what's shown in this figure and sends it through a paging system?

A. No, that's -- that's an example, but it's not part of this claim language. I think there is a whole different claim that says something about pagers.

Q. You were also asked about the registration ID, and Google's contention that it constitutes an address. This is an example that we showed of a registration ID; is that right?

A. That's correct.

Q. And you're --

A. That's actually out of a Google document.

Q. In your opinion, does this registration ID -- is that an address?

A. No, it's exactly what it's called, a registration ID. It's -- which is just a Google term. And it's an encrypted, you know, top secret piece of --

of code that means nothing to anyone other than Google.

Q. Can the app provider use this to send a message directly to the Google application -- application on the phone?

A. No. It means nothing to him, other than here's something I was given, and I'm supposed to give it back to Google when I send the message.

Q. When Mr. Nerieri, Google's witness, was asked what's contained within the registration ID -- we showed this before -- did he describe its contents as being an address?

A. I'm not aware that he did. What you see here is the phraseology that he used, and you'll note there's not -- it's not only the registration ID isn't an address, there's not even an address within it.

Q. In your opinion, does the MCS address that's used by the Google system constitute an address, as Claim 1 of the patent requires?

A. I'm sorry, I -- I lost something in the question.

Q. Is the MCS end point address in the Google system, in your opinion, does that meet the definition of address under the claim?

A. Yes, that is an address. It happens to specifically be the one that will get the message to the

phone, but even that's not required in the claim language there.

Q. And does Google itself refer to the MCS end point address as an address?

A. Yes, it does. It's in their own code.

Q. They touched on Element E which is the step of transmitting the preprocessed data to receivers and talked about how it actually goes through the -- the cell phone carriers, not -- not there own system. Sir, does that matter for infringement?

A. No.

Q. Did we look at claim -- we looked at Claim 7 earlier, right?

A. That's correct.

Q. And what did that claim specifically require?

A. Claim 7 is one of the ones that's actually dependent on Claim 3 which says it has to be wireless. And Claim 7 lists some of the different kinds of these wireless carriers that could be allowed to be used.

Q. Does this claim actually require that you send the message through a wireless carrier, such as AT&T?

A. Not through -- if I understand what you're asking, not specifically through AT&T.

Q. I'm sorry. AT&T was an example.

Sir, does Claim 7 require that the message be

transmitted through one of these -- using one of these types of wireless carriers?

A. It just says utilizing.

Q. And an example of that is a cellular carrier, right?

A. That's correct.

Q. Now, Claim 7 is a dependent claim, right?

A. That's correct.

Q. And that means that we first have to show that everything within Claim 1 is infringed before getting to this one, right?

MR. STOCKWELL: Objection, leading.

THE COURT: Sustained.

Q. (By Mr. Eichmann) How -- what is the difference, again, between a dependent claim and an independent claim?

A. An independent claim stands alone. If you assert this claim, you have to -- in order to show infringement, do everything that's in there. A dependent claim is kind of a tack-on. The dependent claim says, yes, you have to do what it says here in this claim, but you also have to do what it shows in some other claim that it's dependent on.

Q. Is Claim 1 broader than Claim 7?

A. Yes, because Claim 7 properly -- probably

should have had Claim 3 in there, as well, but -- but, yes, Claim 7 is a subset down. It would only be some of the things that satisfy Claim 1. Could be all of them, but it can't be more.

Q. If Claim 7 allows you to send the message through a wireless carrier, does Claim 1 also allow that?

A. No. In fact, I've been taught -- again, I'm not a legal expert -- something called claim differentiation. You can't put that requirement back on the independent claim.

Q. Sir, I think you misheard the question.

A. Okay.

Q. I said allow, not require. So let me start over.

A. Okay. Please, yeah.

Q. Claim 7 allows you to send the message through a wireless carrier, right?

A. Yes.

Q. Does Claim 1 also, because it's broader, allow that, too?

A. Oh, yes.

Q. The last element was Element F. This is the one about transmitting the data and having the notification on the phone occur whether connected or

not. You remember this part of the claim?
A. Yes, I do.
Q. Was it your opinion that Google sends the messages in both circumstances, whether it's -- the device is connected to CNN or not connected to CNN, for example?
A. I have absolutely no evidence that it -- that CNN doesn't send the messages. Regardless, I do know from my examination of the code and -- and the documents and everything else, that messages from CNN will arrive at the CPU even if you are connected to CNN.
Q. Did Google tell us how many times it's sending the message when the connection is actually established versus how many times it's not? Did they produce that data to us?
A. I don't believe so. If you have a slide, fine, but I don't recall it.
Q. Well, that was my point actually, sir. When you reviewed all Google's data, they told us how many messages they sent in total, right?
A. That's correct.
Q. They didn't tell us how many times within that number of messages there was a direct connection established between a phone and the app provider, right?
MR. STOCKWELL: Object. Leading.

THE COURT: Sustained.

Q. (By Mr. Eichmann) In the data that Google produced to us, did they specifically tell us how many messages were sent whether -- when it was connected and how many when it was not?

MR. STOCKWELL: Object. Leading.

THE COURT: Overruled. Answer the question.

A. I have no recollection of seeing that in there anywhere.

Q. (By Mr. Eichmann) Based on your review of all the evidence, were you still able to conclude that in both circumstances, both when the phone is connected to the app provider and when it's not, that this notification under Step F still occurs?

A. Yes.

Q. How are you able to reach that conclusion?

A. Couple of different ways, but primarily by the analysis of the code and the documentation that I was given from Google. The GCM or C2DM never even checks to see if that connection exists.

Further, even hypothetically -- and I have no evidence whatsoever that, for example, as I was asked, that CNN doesn't send messages while there's a direct connection, but even if it did not for some reason that

wouldn't change my answer because those messages have been sent, many of which may be stacked up on Kansas because of whatever delays, are still going to arrive at the phone while this connection is established.

There is nothing in GCM nor is there anything in the phone software, which I also reviewed. We haven't looked at any examples of that here, but I did examine the code in the phone as well. There's nothing that will stop that message.

Q. Last point: This issue about how many times they infringe, you were asked questions about the location of the servers. Some of them are in the U.S. some of them are overseas; is that right?

A. That's correct.

Q. And Google provided worldwide data on how many notifications they sent; is that right?

A. That's correct.

Q. If they provided worldwide data and some of those messages are going through foreign servers and others through U.S. servers, how are you able to reach this conclusion that hundreds of millions of times each day they're infringing?

A. I looked at the information that they provided. You saw the charts a moment ago, and some of those specified U.S.; some of those only partly

specified U.S. And they didn't give us the information, but the ones for which they didn't give us the information, necessary to exclude those, were huge numbers in the -- in the many billions.

So I tried to be very, very conservative, recognized that the United States is a major user of high technology, and I believe this number is ridiculously conservative.

Q. Thank you.

MR. EICHMANN: Pass the witness.

THE COURT: Recross-examination?

MR. STOCKWELL: No, Your Honor.

THE COURT: All right. You may step down, Dr. Knox.

THE WITNESS: Thank you, Your Honor.

And, Your Honor, I have to ask this invoking of the Rule. Am I allowed to stay in?

THE COURT: Well, if your counsel seeks to have you released from the Rule or if Plaintiff's counsel seeks to have you released from the Rule, we'll see. It depends on whether you may be used later in the trial.

MR. EICHMANN: Your Honor, the parties have stipulated that the Rule doesn't apply to experts. Experts can stay.

THE COURT: You may stay.
THE WITNESS: Thank you, Your Honor.
THE COURT: All right. Plaintiff, call your next witness.
MR. DOVEL: Your Honor, we've got some videotaped witnesses to play.
THE COURT: What is their approximate duration, Counsel?
MR. EICHMANN: In total, about 32 minutes.
THE COURT: How about in segments?
MR. EICHMANN: The first segment is about 22 minutes. I have the precise numbers at the table.
THE COURT: I tell you what we're going to do. It's 10 minutes until noon. I'm not going to go into the noon hour. We'll recess for lunch at this time. We'll start the deposition testimony when we reconvene.
Ladies and gentlemen, I'm going to excuse you for lunch. I'm going to ask that you leave your jury notebooks in the jury room. And as you're at lunch, you expect me to, so I'll tell you, don't discuss the case among each other or with anyone else.
Have a good lunch. Try to be back about 5 minutes until 1:00. We'll try to start as close to

1:00. No, I take that back. Try to be back about 10 minutes until 1:00. We'll try to start about 5 minutes 'til. That still gives you a little over an hour. And leaving before noon, you should beat the usual Marshall lunch crowd, so you should be okay.

You're excused for lunch at this time.

COURT SECURITY OFFICER: All rise.

(Jury out.)

THE COURT: All right. We're in recess for lunch. I'll check with counsel on your meeting and conferring about 10 minutes 'til.

MR. EICHMANN: Thank you.

THE COURT: We stand in recess.

(Recess.)

****

CERTIFICATION

I HEREBY CERTIFY that the foregoing is a true and correct transcript from the stenographic notes of the proceedings in the above-entitled matter to the best of my ability.

/s/_____ 1-14-14
SHELLY HOLMES, CSR Date
Official Court Reporter
State of Texas No.: 7804
Expiration Date 12/31/14

/s/_____ 1-14-14
SUSAN SIMMONS, CSR Date
Official Court Reporter
State of Texas No.: 267
Expiration Date 12/31/14